



argos[®]

Enterprise Reporting Solution

Argos Report Writers Guide

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Introduction

Argos is a powerful reporting solution designed for everyone from novice users to the most seasoned technical experts. For ease of use, Argos users are divided into three distinct types:

DataBlock Designers: Argos “power users” who create DataBlocks.

Report Writers: Intermediate users who use DataBlocks to build a variety of reports.

Report Viewers: Casual users who are able to run reports, then save and distribute the output in a variety of useful formats.

Each user type has a corresponding guide associated with it. This guide is intended for Report Writers. Regardless of your level of expertise, Evisions recommends that you become familiar with this guide before moving on to more advanced features.

A prerequisite to reading this guide is reading the Argos Report Viewers Guide. This guide describes how to log into Argos, how to navigate through the Argos User Interface, and how to execute reports. Therefore, this basic information need not be repeated in this guide.

Once you have completed this guide, you should be able to:

- Create a QuickView report
- Design a Comma Separated Value report
- Design a Banded report
- Design an Extract report

This guide is not intended to be a comprehensive reference guide that covers each and every option within Argos. The intent is to provide a sufficient number of examples to aid a new Argos user to get started quickly, with the In-Product Help used as a reference for each feature within Argos.

Evisions Support Site

The easiest way to get to the Evisions support site is to access it through Argos. Under the Help menu is a link to the Support page. A link to the Support page also exists on the Argos toolbar. All the technical documentation available for download is found under the Support page.

Evisions can also provide more in-depth and even customized training via our Professional Services department. Visit the Consulting Services page on the Evisions web site at

<http://www.evisions.com/Services/Overview.aspx>

In Product Help

In addition to the Support site is In-Product Help. You can get to In-Product Help a few different ways. There is a link under the Help menu to Argos Help. There is a button on the toolbar, and you can also use your F1 key. Most screens within Argos have a link to Argos Help as well.

Argos

Visions solution for building and deploying reports and dashboards across the enterprise.

DataBlock

DataBlocks are the foundation of Argos. They contain user input forms and queries to retrieve information from one or more data sources. Reports in Argos have a DataBlock as their “parent” and each DataBlock can contain multiple reports.

Explorer Tree

The Argos Explorer Tree is a way to view and navigate the folders, DataBlocks, and reports in Argos.

Support icon on Argos toolbar



Security

Access to reports is managed by DataBlock Designers and Administrators by permitting or denying access to Argos objects. The only level of security available to report writers is a private report. Making a report private is an action reserved to the user types that can edit a report. So this means a few things. You cannot create a private report for someone else. And only report writers and above can create private reports. Report Viewers, since they cannot create or modify reports, cannot make a report private.

The next security concept is for your information only. You will not be able to implement it, since it is implemented within the DataBlock. The DataBlock Designer has the ability to restrict access to a piece of data based on who runs the report.

Sample Database

The examples in this guide are based on an MS Access database that was created to assist you with becoming familiar with Argos. The database can be downloaded from the Evisions web site at:

<http://www.evisions.com/Default.aspx?tabid=67&id=745>.

The name of the file is "Sample_Database_and_DataBlocks.zip" and after unzipping the file name of the database will be "Sample.accdb". Five DataBlocks are included in the zip file that were used to create Banded Reports in examples 1, 3, 4, 5, 6, 8, 9, and 11 in this guide. The DataBlocks are named as follows:

Example 1_3_4_9 - basic banded 20100526.argosexport (used by examples 1, 3, 4, and 9)
Example 5 – resetexpr 20100526.argosexport
Example 6 – conditional print 20100526.argosexport
Example 8 – sub-detail 20100526.argosexport
Example 11 – chart 20100526.argosexport
Example 12 – Extract Report.20100929.argosexport

Each DataBlock contains the reports that were created within each example.

You can use the database and DataBlocks to follow along with the examples in this guide. If you choose to do so, import the five DataBlocks into Argos and follow the examples to create the reports.

A description of the database contents (.pdf file) can be downloaded from the Evisions web site and is named "Argos User Guides Sample Database Description" and is located at <http://www.evisions.com/Default.aspx?tabid=67&id=746>. The document also describes how to create the ADO connection to the sample database.

Contact your MAPS Administrator to install the database and create the ADO connection.

Importing a DataBlock

To import a DataBlock, select a folder within the Explorer tree where you want the DataBlock to reside under, right-click and select Import. You can then enter the location and file name of the DataBlock to import. You can also find the Import option under the File Menu in the Argos Main Interface.

Getting Started

Starting Argos

Argos is Windows PC software which is web-enabled, meaning it is accessible from your web browser via an Internet connection. Before launching Argos, you may need to disable any pop-up blockers running on your computer. To disable the pop-up blocker in Microsoft (MS) Internet Explorer, select Tools, Pop-up Blocker, Turn Off Pop-up Blocker. You should be able to re-enable the pop-up blocker once you have downloaded the software.

Connect to the Server

Type the web address provided by your system administrator into the address bar of your browser to access the Multiple Application Platform Server (MAPS) launch page. This webpage provides a central access point for all MAPS applications, including Argos, FormFusion, IntelleCheck and the MAP Server Configuration Tool.

Start Argos

Click Argos from the menu on the left.

Click the "Start Here" button to launch Argos.

NOTE: If this is the first time Argos has been launched from this PC, an information bar will appear at the top of the screen. Click the bar and choose "Install ActiveX Control" to install the "MAP Client Universal Launcher" from "Global Evisions Solutions, Inc."

Enter your user name and password (obtained from your system administrator) in the Login box. The "Remember this user" and "Remember the password for this user" are optional check boxes (available as determined by the MAPS Administrator) that should not be used on shared computers. Check them as desired.

Click the Login button.

Change Password

To change your password, select Tools from the menu at the top of the screen and then select Change Password. You must know your current password in order to change it. The password strength indicator will help you determine if your password is secure enough. It is advisable to contact your system administrator before changing your password to verify that the change will not produce any undesirable results.

Browser support

Argos is designed to operate using MS Internet Explorer browser. You can also use other browsers, such as Firefox, but they may require some configuration first.

Multiple Application Platform Server

MAPS is the server that delivers the Argos software to users. Once Argos is installed, users connect to MAPS which fetches data and performs other tasks for them.

FormFusion

Visions solution for enhancing documents and managing distribution via email, imaging software, print, etc. Users can rearrange and add data and images, change the layout, format fonts, etc.

IntelleCheck

Visions solution for payment processing – AP, payroll and refund checks, Direct Deposit Advices and electronic refunds.

ActiveX Control

Browser software components that are needed to launch Argos.

Password Strategies

The following strategies will help you make a more secure password.

- ✓ Increase password length
- ✓ Include letters and numbers.
- ✓ Use both upper and lower case.
- ✓ Include special characters [, {, !, ?, etc

Navigation

Argos has been designed with an intelligent interface that knows your user type and configures menus and buttons to show only those actions permitted.

Menus across the top allow you to take simple actions such as logging into the product, finding items in the Explorer, customizing your Argos toolbars and changing your password. You can also access the integrated Help system or visit the Evisions website that has many helpful resources available. The most common actions are replicated as buttons just beneath the menus.

At the very bottom of the screen, the status bar tells you what server you are logged into, your user name and user type.

Between the top and bottom toolbars is the Argos work area. The work area is broken into two halves. The left half contains the Navigation area while the right half contains the Action area.

Action Area

The right hand side of the screen will have buttons for any actions you can take on a selected object. The buttons that show will depend on the type of object you select in the Navigation area.

Navigation Area

This area contains the objects that you can perform actions on. There are three different views you can use for the Navigation area by clicking the desired tab (Explorer, QuickLaunch, Dashboards). Each of these views is described below.

Explorer view

The Explorer is the default view for the Navigation area, in which a simple menu of available folders and objects is displayed. Argos objects that can be found in the Explorer include:

Folders – Contains objects, including other folders

DataBlocks – The “parent” object for one or more reports

QuickView Report – A display-only report or Dashboard

CSV Report – A comma-separated values report

Banded Report – A fully-formatted report

Extract Report – A text report that meets pre-defined specifications

Schedule – Reports may be scheduled to run automatically

Icon	Explorer Objects
	Folder
	DataBlock
	QuickView Report
	CSV Report
	Banded Report
	Extract Reports (Delimited, Fixed Width, XML)
	Private Report (Banded)
	Schedule

Figure 1 – Explorer objects

Some objects can be flagged as private. Private objects will not show up in the Explorer for users other than the creator and the administrator. These objects will have the “private eye” icon like the sample private Banded report icon on the list to the right.

Dashboards and Schedules will appear in the navigation area only if these features were purchased and included within your software license.

Reports exist within the Explorer as child objects of a DataBlock. A DataBlock can have many “child” reports. Any object that has child objects will have a “+” next to it. Simply click the “+” to expand the object to view its children.

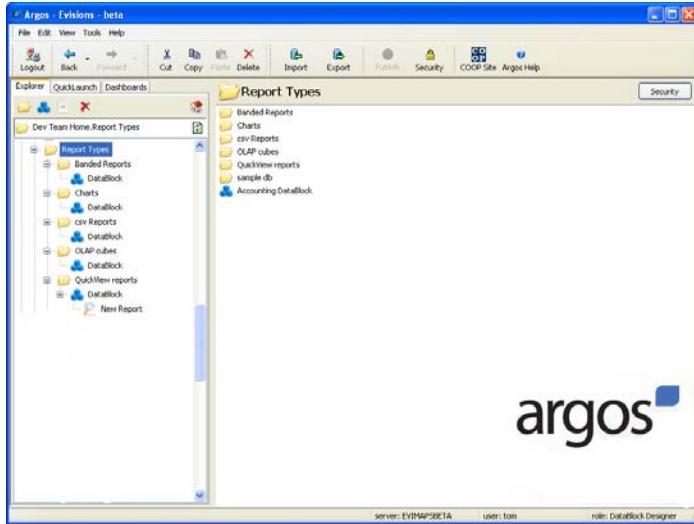


Figure 3 – Explorer Navigation

If you use a DataBlock or report frequently, you can right-click on it and choose “Add to QuickLaunch”. You can also right-click on a QuickView report and choose “Add to Dashboard”. This allows you to add objects to the QuickLaunch and Dashboard views, which can make it easier to find what you need.

QuickLaunch view

This view can be very convenient as it shows only your available QuickLaunches. You can even rename a QuickLaunch to something other than the original name. To find the original object in the Explorer view, right-click a QuickLaunch and choose “Locate” (see figure on the right). Deleting a QuickLaunch has no effect on the original object.

Are my reports secure?

You may be wondering about the security of reports in Argos. Each object can be assigned to groups or individuals as needed. Unauthorized users would not be able to even see objects they lack permissions for. It is even possible to have security all the way down to individual fields in a CSV, Banded, or Extract report.

Is my data secure?

All data transmitted from the server to Argos is “point-to-point” encrypted, meaning that anyone other than the intended user would see only gibberish. Once a report is created, care should be taken with resulting file(s) to ensure data security.

QuickLaunch

A QuickLaunch is a shortcut to a DataBlock or Report. They can be Public (so all users can see them) or Private (so only the creator can see them). Click the QuickLaunch tab to switch to the QuickLaunch view.

Execute	Execute the target of this QuickLaunch
Rename	Rename the selected QuickLaunch
Delete	Delete the selected QuickLaunch
Locate	Locate the target of this QuickLaunch in the Explorer Tree

Figure 2 – Options for QuickLaunch

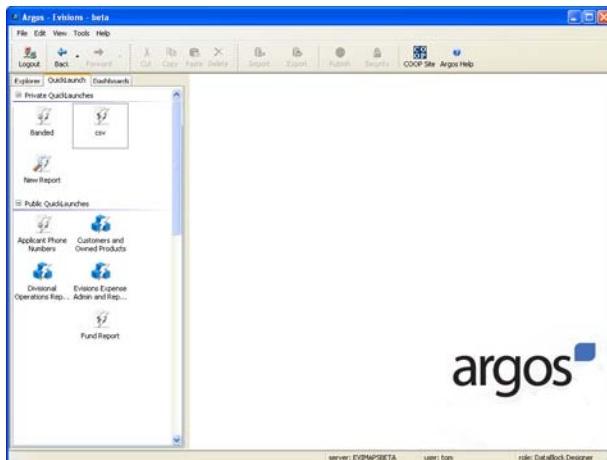


Figure 4 – QuickLaunch View

Dashboard view

Dashboards provide an organized, direct way of accessing and running your reports. Here is an example of a QuickView report that has been run as a Dashboard. The report is within the main Argos window.

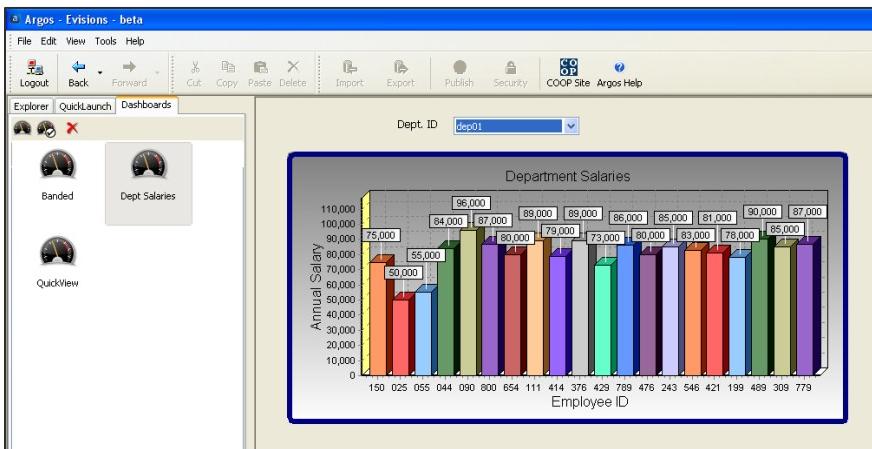


Figure 5 – Dashboard View

DataBlocks

The DataBlock is the foundation from which all reports are created and contains **Forms** and **Queries**. Only users with DataBlock Designer privileges can create DataBlocks.

The **Queries** obtain data from a database. When results of a query are displayed on a form, this is called a QuickView Report. In the case of CSV, Banded, and Extract Reports, the results of the query become input to the report design with the results displayed or stored elsewhere. Within the Argos Explorer tree, reports exist as "child" objects of a DataBlock.

The **Form**, created by the DataBlock Designer using the Argos DataBlock Designer, is used for two purposes:

- To obtain input selections from the user executing the report. The input selections can be passed to the queries to limit the results.
- To display the results of the report. QuickView reports can display results on the form.

Whenever a user executes a report, the form designed as part of a DataBlock will be displayed. **The input selections made by the user become query parameters.**

Any report type (QuickView, CSV, Banded, Extract) can utilize the data obtained from the queries. The tree structure shown on the right denotes that all report types underneath the DataBlock will obtain the same results from the queries, but of course each report type will print the data using methods applicable to the given report type.

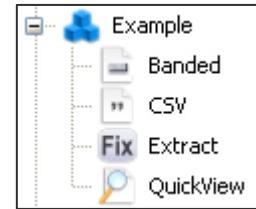


Figure 6 – Reports as children of a DataBlock

All report types residing under the same DataBlock share the form. Reports are "children" of the DataBlock.

Report Types

QuickView

A situation in which a user needs to access information quickly and often is usually a case in which one would want to use a "QuickView". A good example is a situation where the head of Sales needs to view sales results for the organization. The design of the QuickView report could allow the Sales Manager to view a sales summary for the organization, by region, for each quarter. The QuickView form could provide additional 'drill down' functionality such as monthly sales results for each salesperson. The QuickView results are displayed directly on the user's browser.

CSV

A "Comma Separated Value" or "CSV" report is the simplest of Argos report types. A comma delimited file simply separates the desired columns by a comma or other specified delimiter. This type of report is especially useful when obtaining data quickly for manipulation in MS Excel or other spreadsheet software. It is also useful when creating files used by third party applications.

Banded

Banded Reports are fully formatted reports where the Report Writer has complete control over the location and appearance of information within the report. The term "band" is utilized since many types of reports can be thought of as consisting of various bands (or groups) of data types (Title Bands, Column Header Bands, Detail Bands, etc.).

Extract

An Extract Report is designed to create output files that meet pre-defined specifications. This feature is especially useful for creating delimited output that is more complex than a simple comma-separated file (CSV), for creating a fixed-width file in which each field is precisely positioned on a given line, or for creating an XML file. This could include files that you might upload to a government agency, clearinghouse, or service bureau.

Extract Reports are somewhat similar in design to a Banded Report. Similar to bands within a Banded Report, an Extract Report has sections, each of which can include different data fields. However, in an Extract Report you can loop through as many datasets as your report requires, and you can precisely control the position of your data in the output file.

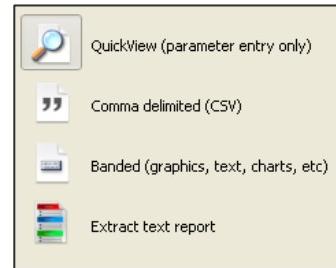


Figure 7 –Available report types

Creating a QuickView Report

If you highlight a DataBlock you can see the option to create a new report in the detail pane.

You can also right-click on the DataBlock and go to New Report. The "Create a New Report" dialog box appears. Give the report a name and a description if desired.

Next, choose what kind of report you want to create: QuickView, CSV, Banded, or Extract. As you select each report a description of the report type is shown to the right. (Select QuickView). If the DataBlock does not contain a report query, the CSV and banded reports are not accessible and will be greyed out.

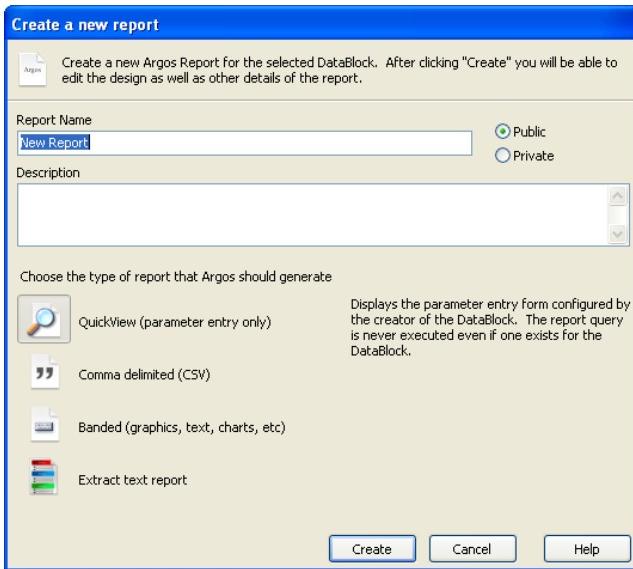


Figure 10 – Creating a QuickView Report

Click Create.

If you highlight the new report you will see 3 options in the detail pane. You can Edit the Report, Edit the Data, and Delete the Report. The Edit Data button is for XML experts who want to edit the underlying object XML.

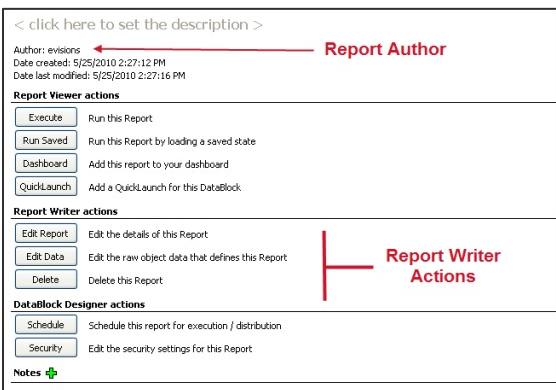


Figure 11 – Report Writer Actions

QuickView Report

Displays results on the user's browser

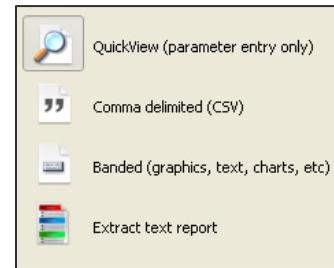


Figure 8- Icons used to represent the report types

Edit the Author of the report

Note the Author of the report shown in the figure to the left. By default, Argos sets the Author to the user name of the person logged in. Click "Author" to change the Author of the report as shown below

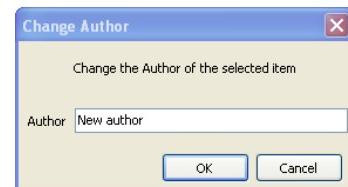


Figure 9 – Editing the author of the report

QuickViews are shortcuts to the form created by the DataBlock Designer, so there isn't much more you can do other than create it. If you click Edit Report you can edit the report. The Design button is grayed out and you don't have access to it. There are a few tabs: the Refresh, API, and Saved States.

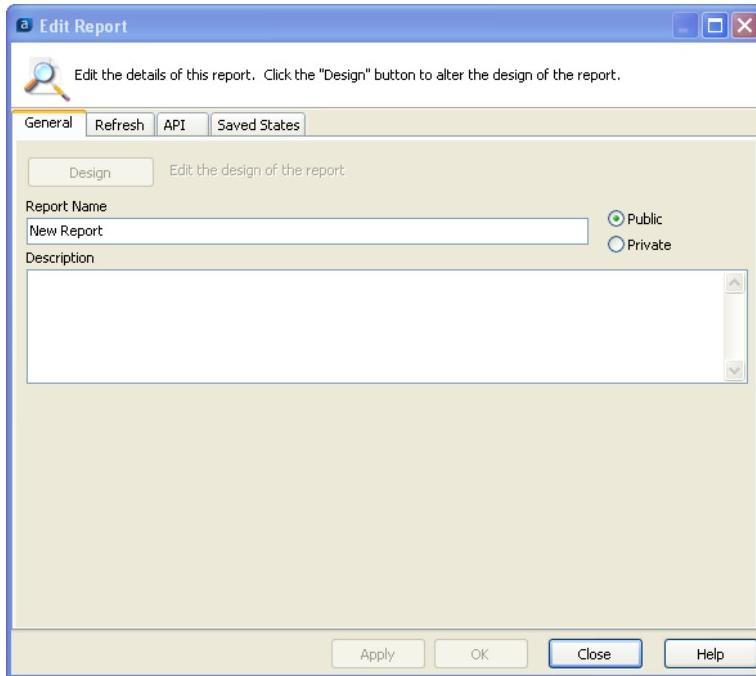


Figure 12 – Editing the details of the QuickView Report

Refresh Tab

The Refresh tab allows you to refresh the variables within the DataBlock. This is mostly only useful for Dashboards.

API Tab

The API tab is part of the optional Advanced Reporting module. API stands for Application Programming Interface which allows a report to be called from a web page or portal, or even a third party application. Only Administrators can configure and access the API tab. Making a report API accessible is a very useful feature when you want people to have access to a report created by Argos, but you don't want to give them Argos access. All the different types of reports, QuickView, CSV, Banded, Extract can be called using the API. Making a report API accessible does have significant security implications, which is why it can only be done by an Administrator.

In-Product Help has a complete description of the API

Saved States Tab

The last tab is the Saved States tab. A Saved State is a point in time snapshot of a QuickView or an OLAP cube or chart. The data is saved as a file that can be viewed at any time. Saved States are configured via the scheduler by an Argos Administrator or a DataBlock Designer. As a Report Writer you can allow or disallow the running of the QuickView by checking or un-checking this box.

You can also manage the Saved States files by deleting any that you don't want. The states shown are stored on the MAP Server, however you can also copy a Saved State onto a PC by clicking the 'Save' icon. You will then be able to supply the destination and file name of the Saved State.

The Report Viewer can choose whether to execute a state stored on the MAP Server or one stored on any PC. The Argos Report Viewers Guide provides an explanation of this.

Creation and execution of Saved States is described within the Argos Report Viewers Guide.

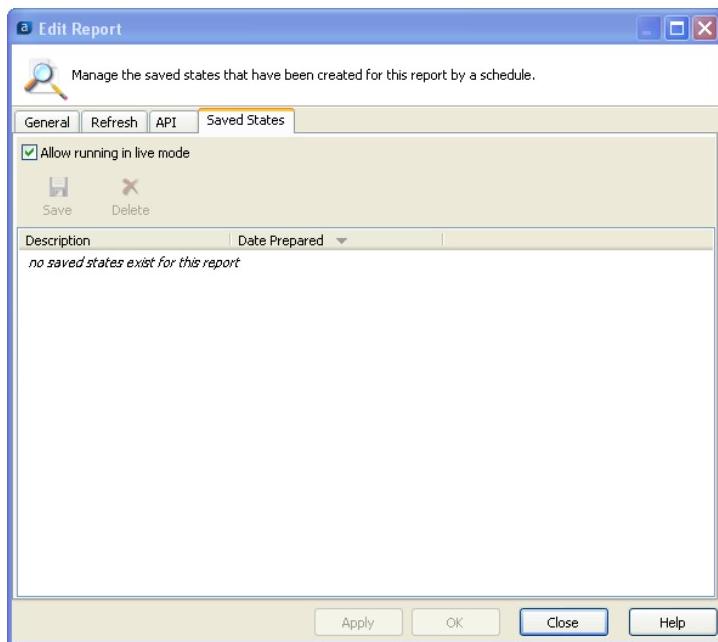


Figure 14 – The Saved States Tab

Executing a QuickView Report

After making the desired changes within any of the tabs described above, click OK to complete the creation of the report.

The QuickView report will now appear under the associated DataBlock and can be executed by selecting the appropriate action listed under Report Viewer Actions. Execution options are fully explained within the Argos Report Viewers Guide.



Figure 13 – The created QuickView Report

Creating a CSV Report

For this example, the Employees table within the sample database will be used. The table contains the following fields which are all used in the Report query.

Field name	Description
emp_id	Employee Number
last_name	Employee Last Name
first_name	Employee First Name
hire_date	Hire Date
salary	Salary
dept_id	Department ID
location_id	Location ID (a department can exist in several locations)
Street_Line1	1 st line of address
Street_Line2	2 nd line of address
Street_Line3	3 rd line of address
city	City
state	State
zip	Zip Code

Figure 15 – Field Names in Employee Table

Report Name and Description

To create a CSV report you start the same way you did the QuickView. Highlight the DataBlock and click on New Report.

Give it a name and a description, and click the “Comma delimited” icon.

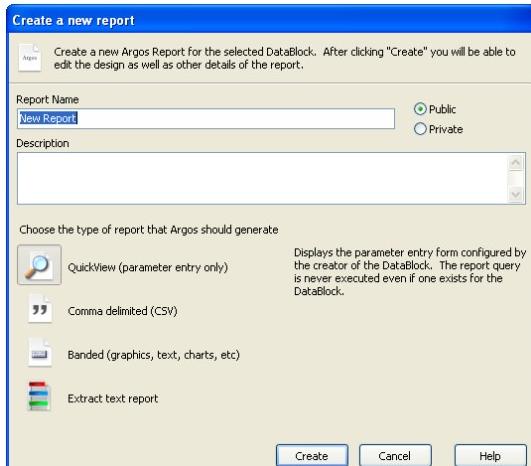


Figure 16 – Creating a new CSV Report

CSV Report

A “Comma Separated Value” file is generated by the report, which can be viewed in MS-Excel or other similar spreadsheet applications.

Click Create, then the following dialog box will appear.

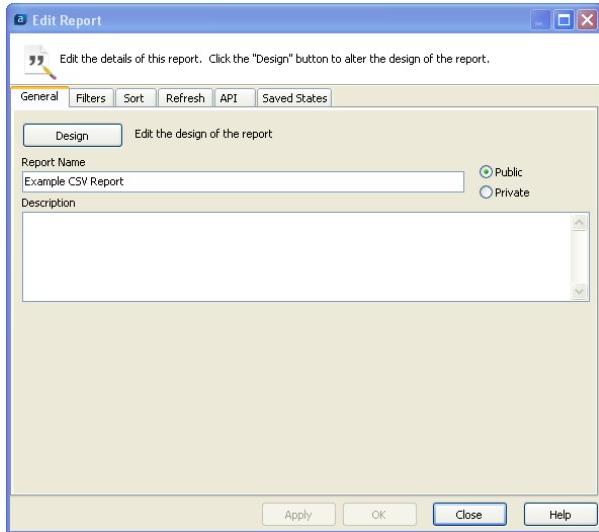


Figure 17 – Editing the Report

Click the Design button which brings up the following dialog box:

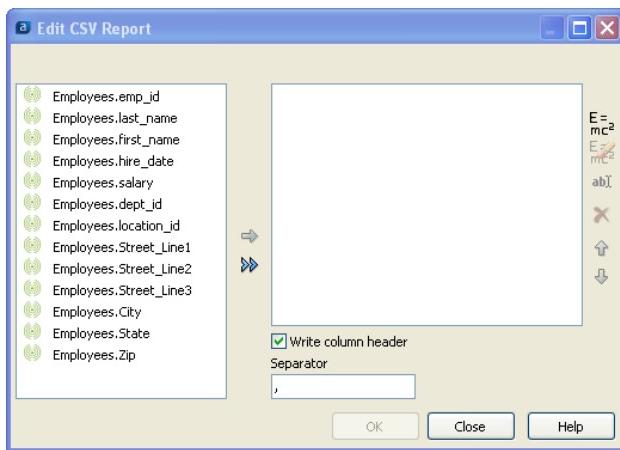


Figure 18 – Choosing the fields to appear within the report

Choose the Database fields to use

This dialog box above allows you to specify which fields within the Report Query will appear in the report. For this example the emp_id, last_name, first_name, salary, dept_id, and location_id fields will be used. Double-click each field name to move the field to the window on the right as shown in the figure below. The fields within the window on the right will then appear in the report. You can also single-click each field name then click the right arrow to move the fields to the right.

You can change the name of each field to something more meaningful since this name will appear in the column header in the spreadsheet application. Right-click on each field or highlight the field and click 'ab' to create an editable box where you can change the names as shown in the figure below:

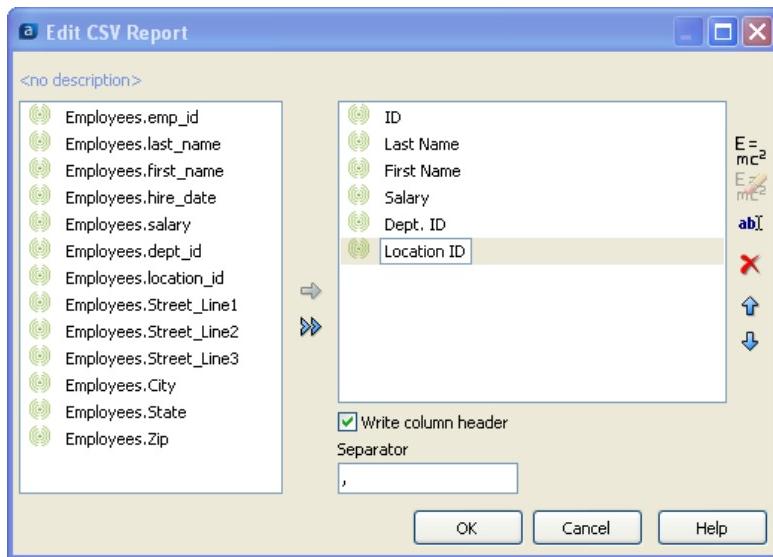


Figure 19 – Changing the field names

Execute the Report

Click OK to complete the report design. You can now execute the report using the methods described within the Argos Report Viewers Guide. The figure below shows the resulting CSV file imported into Excel. Note that the column titles within the first row match the field names that were modified above.

	A	B	C	D	E	F
1	ID	Last Name	First Name	Salary	Dept. ID	Location ID
2	102	Washington	Mark	80000	dep03	loc09
3	150	Brown	Bill	75000	dep01	loc01
4	155	Green	Harold	60000	dep02	loc01
5	25	Smith	John	50000	dep01	loc02
6	501	Orange	Herbert	40000	dep04	loc01
7	55	Strauss	Jane	55000	dep01	loc01
8	600	Morgan	Howard	50000	dep04	loc01
9	650	Jackson	Mary	50000	dep05	loc08

Figure 21 – The CSV report within Excel

Adding additional fields using expressions

Even though the report has been created, you can edit the report to add fields from the DataBlock or add fields created from expressions. To illustrate this, two fields will be added to the report. The first field will have the last name and first name concatenated into one field (with a space between the names). The other field will contain the date the report was run. This will illustrate how to utilize the Expression Builder.

Highlight the report within the Navigation Pane, click Edit Report, then click the Design Button to bring up the "Edit CSV Report" dialog box again as shown in the following figure.

After fields are moved to the window in the right you can:

Click the red X to delete a field from the report.

Use the up/down arrows to move a field up or down.

Editing fields

To change the name of a field within the right hand window, click the "ab" item, then change the name of the field.

Right-clicking on any field provides all available editing features

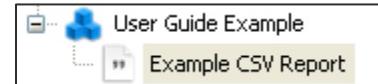


Figure 20 – The completed CSV report available to be executed

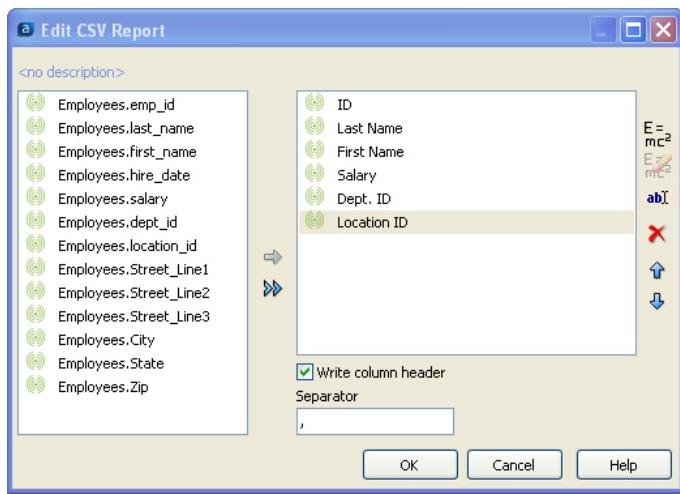


Figure 22 – Preparing to add new fields

To add the first field, click **E=mc²** (in the upper right of the dialog box) which brings up the Expression Builder dialog box shown below.

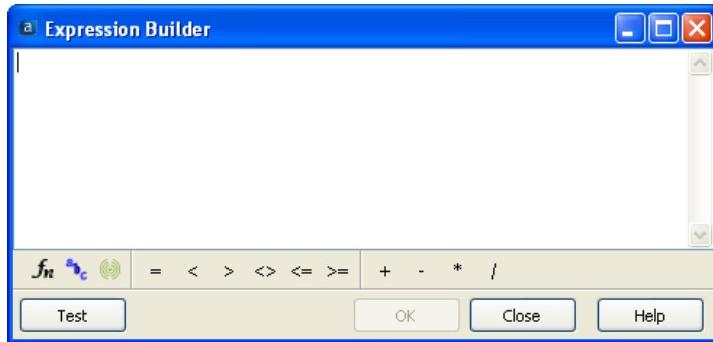


Figure 23 – The Expression Builder dialog box

Click the Green circular icon which brings up the list of database fields, then double-click on Employees.last_name which places the field within the Expression Builder.

icon	Function
	Choose functions from library
	Add system variables.
	Lists available database fields.
+	Concatenate fields. Leading/trailing spaces are removed.

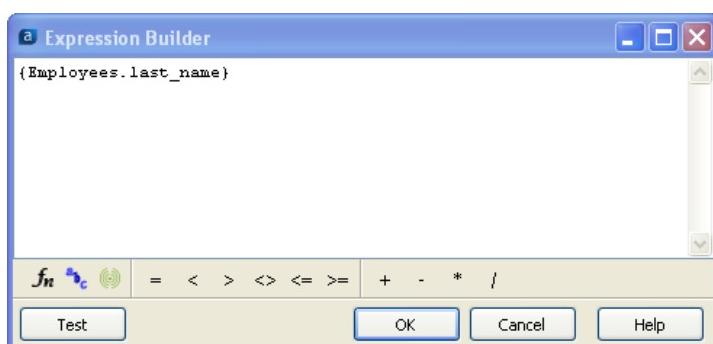


Figure 24 – Expression Builder (first item in expression)

Click on the plus sign (to concatenate) and a blank space (surrounded by single quotes) to leave room between the last and first name.

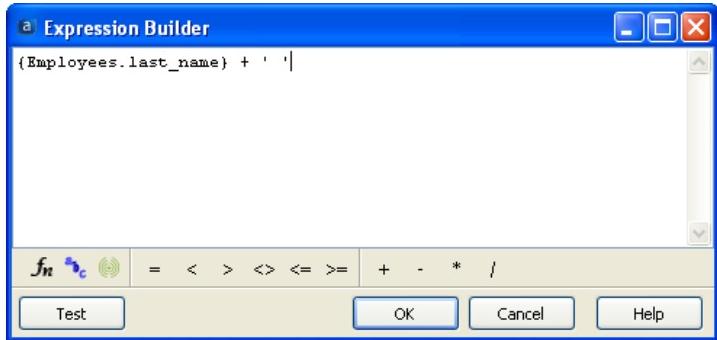


Figure 25 – Expression Builder (second item in expression)

Click the green circular icon to display the list of fields, then add the first_name field.

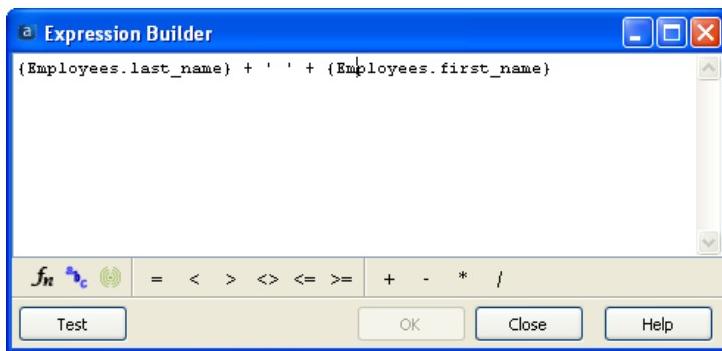


Figure 26 – Expression Builder (final item in expression)

Click OK then enter the name for this new field.



Figure 27 – Entering a name for the new field

The figure on the next page shows the new field (lastfirst) added to the original list of fields.

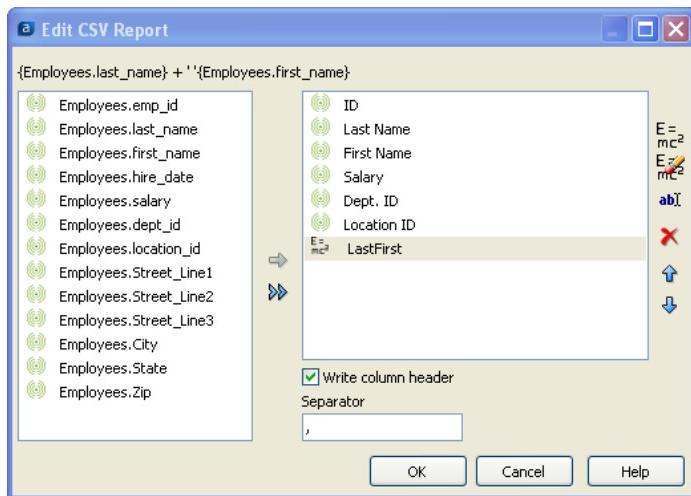


Figure 28 – The new field concatenating last/first name

To create the other field which will contain today's date, a similar process is used. Within the above dialog box click **E=mc²** then click the **f_n** item to display a list of available functions.

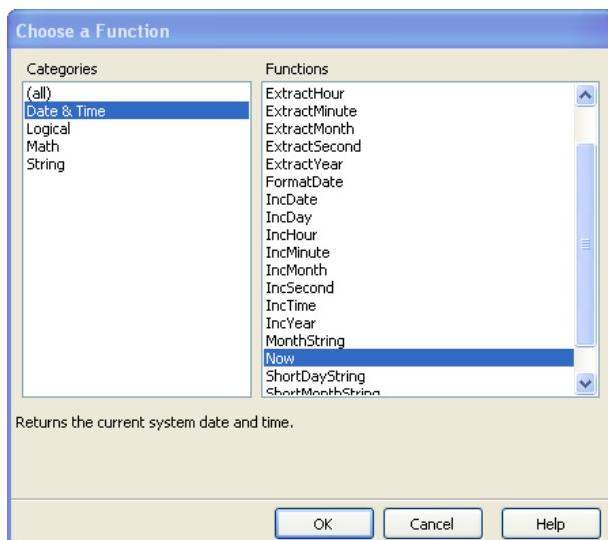


Figure 29 – The list of Date & Time Functions

Click **Date&Time**, then **Now** to obtain today's date. Click OK then name the new field "Today". The resulting list of fields is shown below.

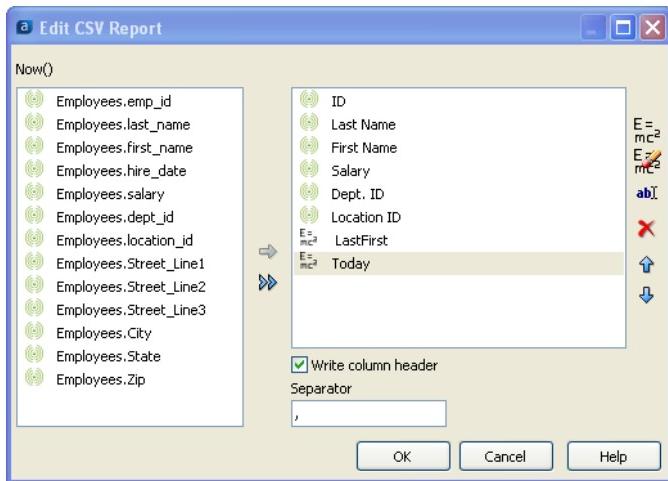


Figure 30 – New field containing today's date/time

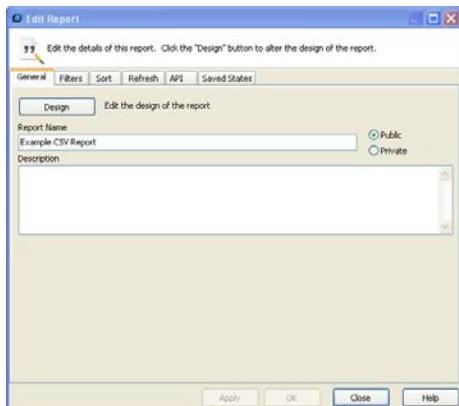
Run the report and you will now see the concatenated last/first name in column G and today's date/time in column H.

	A	B	C	D	E	F	G	H
1	ID	Last Name	First Name	Salary	Dept. ID	Location ID	LastFirst	Today
2	102	Washington	Mark	80000	dep03	loc09	Washington Mark	2/17/2010 10:45
3	150	Brown	Bill	75000	dep01	loc01	Brown Bill	2/17/2010 10:45
4	155	Green	Harold	60000	dep02	loc01	Green Harold	2/17/2010 10:45
5	25	Smith	John	50000	dep01	loc02	Smith John	2/17/2010 10:45
6	501	Orange	Herbert	40000	dep04	loc01	Orange Herbert	2/17/2010 10:45
7	55	Strauss	Jane	55000	dep01	loc01	Strauss Jane	2/17/2010 10:45
8	600	Morgan	Howard	50000	dep04	loc01	Morgan Howard	2/17/2010 10:45
9	650	Jackson	Mary	50000	dep05	loc08	Jackson Mary	2/17/2010 10:45

Figure 31 - The CSV report showing the two new fields

Filter and Sort the Data

When you first create the report (or edit an existing report) you see the Edit Report dialog box shown below containing the Filters and Sorts tabs.

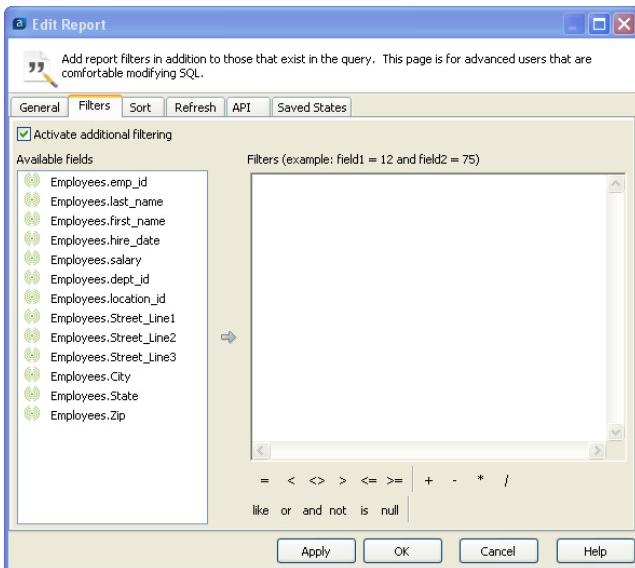


Contact your DataBlock Designer if you receive the following pop-up message when using the Filters or Sort Tabs: "To use this feature edit the DataBlock and insert special character sequences into the Free Type SQL so Argos will know where to place the overrides at runtime"

Figure 32 – Edit Report dialog box

Filters

The Filters tab allows the report writer to activate **additional** filters to the report query. Any filters here are run after the filters in the DataBlock report query are run.

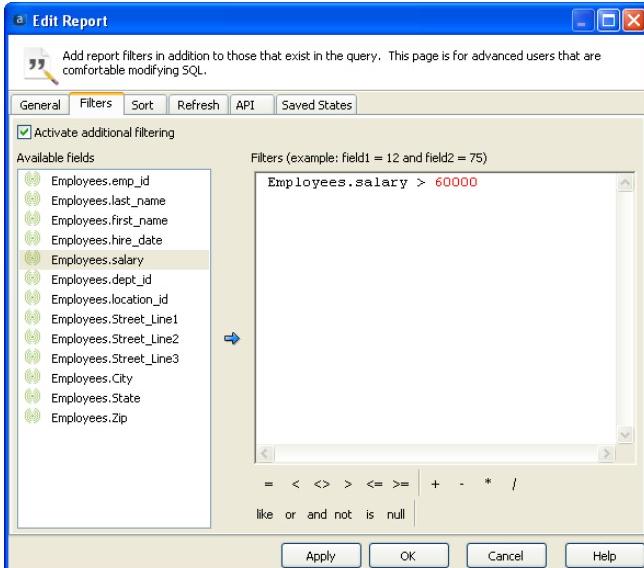


The Filters tab allows you to activate additional data filters at the report level rather than having to modify the WHERE clause of the DataBlock's report query.

Figure 33 – Creating a filter

To add a filter you need to activate additional filtering by checking the “Activate additional filtering” box.

You can create filters by selecting the list of fields and filtering them by the expression operators (+ < >, and , or, etc.). For example to view salaries above 60,000, double-click on Employees.salary, click >, then enter 60000. The resulting filter is shown below.



Although in this example filtering is done using only one field, a filter can consist of multiple fields with associated operators (=, <, >, etc.)

Figure 34 – Filtering salaries above 60,000

Click OK and run the report to view the application of the filter.

Sort

Click on the Sort tab and the following will appear.

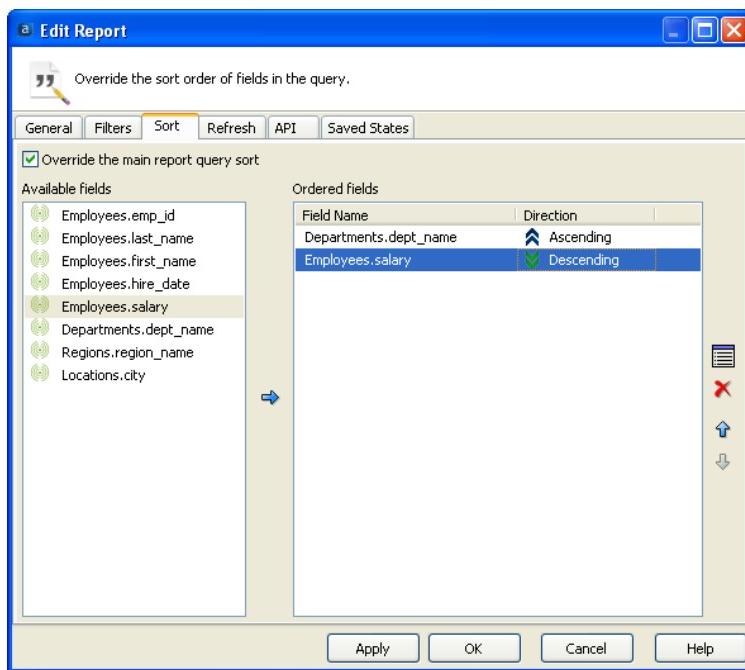


Figure 35 – The Sort Tab within the Edit Report dialog box

You need to activate sorting by clicking the "Override the main report query sort" box

Move items over that you wish to sort on by double-clicking on the item or single-click then clicking the arrow pointing to the right.

You can reorganize fields by clicking the up or down arrow. You can change the sort order to ascending and descending by clicking on the double arrows.

Filters and sorts involve editing the report so once they are turned on, only a Report Writer can deactivate or change them, and Report Viewers cannot. To deactivate a filter or sort just uncheck the activate box. You do not need to clear out the filters and sorts. The Filters tab adds filters to the Report query, so all the conditions and filters in the DataBlock run, and then your additional filters are applied.

Note: If you define a sort order by using the sort tab, you will override the sort order in the DataBlock, so you essentially will be ordering the recordsets twice. The DataBlock will sort based on whatever sort order it is using. When the report is created it will reorder the recordsets based on the report sort order.

After choosing your sort options, click OK then execute the report to see the results of your specified sort.

Sorting Options

Double-click Ascending/Descending to toggle sort by ascending or descending.

As shown in the figure at the left, you can sort using multiple fields. The figure illustrates sorting by department name (ascending), then by salary within the department (descending).

Creating a Basic Banded Report

Example 1

Introduction

This example utilizes the Employees table within the sample database and will produce a report (see figure below) of employees grouped by Department Name. The example demonstrates the use of a Page Header Band, Group Header Band, Child Band, Detail Band, Group Footer Band, and Summary Band.

Employee Roster						
Page Header Band		Group Header Band				
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION
019	Walls	William	7/3/1991	67000	Los Angeles	Southwest
046	Hansen	Michael	4/7/2004	59000	Los Angeles	Southwest
077	Gray	Tommy	12/13/1990	63000	Los Angeles	Southwest
155	Green	Harold	2/15/2000	60000	Los Angeles	Southwest
624	Parker	Courtney	7/22/1999	62000	Los Angeles	Southwest

Number of Employees = 5
Sum of Employee Salaries = 311000

Product Dev						
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION
025	Smith	John	1/1/1995	50000	Seattle	Northwest
044	Garcia	Veronica	8/19/2002	64000	Seattle	Northwest
055	Strauss	Jane	1/15/1996	55000	Los Angeles	Southwest
090	Nguyen	Cindy	9/10/2000	96000	Seattle	Northwest
111	Lackey	Janice	7/5/1995	89000	Los Angeles	Southwest
150	Brown	Bill	2/15/2000	75000	Los Angeles	Southwest
199	Navarro	Dionne	6/22/2004	78000	Seattle	Northwest
243	Carlisle	Rita	5/29/2000	85000	Los Angeles	Southwest
309	Rossi	Franco	6/27/2009	85000	Los Angeles	Southwest
376	Duvall	Joee	10/22/1987	69000	Seattle	Northwest
414	Ramirez	Felicia	2/2/2002	79000	Seattle	Northwest
421	McClary	Helen	8/14/1999	61000	Los Angeles	Southwest
429	Marsh	Zoey	6/6/2001	73000	Los Angeles	Southwest
476	Hayden	Paul	2/22/1994	80000	Seattle	Northwest
489	Pearce	Sydney	10/31/1994	90000	Los Angeles	Southwest
546	Fernandez	Jerry	6/30/2007	62000	Seattle	Northwest
654	Vong	Patty	6/30/2003	80000	Seattle	Northwest
779	Swanson	Joy	3/17/2005	87000	Los Angeles	Southwest
789	Verga	Gwen	3/27/2008	66000	Seattle	Northwest
800	Ortega	Celia	5/2/2002	67000	Seattle	Northwest

Number of Employees = 20
Sum of Employee Salaries = 1612000

Number of Employees = 25 Sum of Employee Salaries = 1923000	Summary Band
--	--------------

Figure 36 – Banded report using various Band Types

The figure above illustrates the band types that are used in this example as follows:

- The Page Header Band (Employee Roster) prints at the top of the page and contains the date and page number of the report.
- The Detail Band contains the data obtained from the Report query.
- The Detail Band is surrounded by Group Header and Group Footer Bands. Grouping is done by Department Name.
- The Group Header Band contains the name of the department.
- The Child Band always prints beneath the Group Header Band and contains column titles.
- The Group Footer Band shows the number of employees and sum of salaries for that department.
- The Summary Band prints at the end of the report and contains the total number of employees and salaries for the entire company.

Definition of Bands:

Page Header Band

Prints at the top of every page.

Page Footer Band

Prints at the bottom of every page.

Title Band

Prints on the first page immediately below the page header band.

Summary Band

Always prints on the last page, immediately before the Page Footer Band.

Column Header Band

Always prints at the top of the page after the Title Band.

Detail Band

This is where the data from the Report query is printed. The band will print repeatedly for each record. It will keep printing between the other bands until it runs out of room, then a new page will start.

Child Band

Linked to any other band and prints immediately after it. The band that it is linked to is called its parent band.

Group Bands(Group Header/Footer)

Group Header and Group Footer bands surround a detail band. Used to structure data into groups, based on a data field or expression.

Sub-Detail Band

This band displays one dataset while being linked to another dataset (called the Master). As each record is printed in the Master dataset, Argos will loop through the Sub Detail dataset.

Sub-Detail Bands are not as efficient as other methods and should be used only when other methods cannot be used.

Loop Band

Contents of a loop band will be printed repeatedly. The user inputs the number of times the band is repeated.

Creating a Basic Banded Report

Before creating the complete report above, a simple Banded Report of the Employees table (see figure below) will first be created to enable a new user to quickly become familiar with the process of creating a basic Banded Report. This report will then be enhanced to create the report shown above.



The screenshot shows a banded report titled "Employee Roster". The table has alternating row colors (white and light gray). The columns are labeled: EMP ID, LASTNAME, FIRSTNAME, HIREDATE, SALARY, DEPT NAME, CITY, and REGION. The data includes 10 rows of employee information.

EMP ID	LASTNAME	FIRSTNAME	HIREDATE	SALARY	DEPT NAME	CITY	REGION
102	Washington	Mark	2/1/2000	80000	Sales	Miami	Southeast
150	Brown	Bill	2/15/2000	75000	Product Dev	Los Angeles	Southwest
155	Green	Harold	2/15/2000	60000	HR	Los Angeles	Southwest
025	Smith	John	1/1/1995	50000	Product Dev	Seattle	Northwest
501	Orange	Herbert	1/15/1995	40000	Purchasing	Los Angeles	Southwest
055	Strauss	Jane	1/15/1995	55000	Product Dev	Los Angeles	Southwest
600	Morgan	Howard	1/1/1995	50000	Purchasing	Los Angeles	Southwest
650	Jackson	Mary	1/1/1995	50000	Marketing	Atlanta	Southeast
700	Ford	Jeremy	2/15/1990	50000	Training	Houston	South

Figure 37 – The simple Banded Report

Select the Report Type

Begin by creating a new report using the same method used for QuickView and CSV reports, but this time select “Banded” and name it “Example Banded Report”. Then, within the Edit Report dialog box, click the Design button to launch the Banded Report Wizard as shown in the figure below.

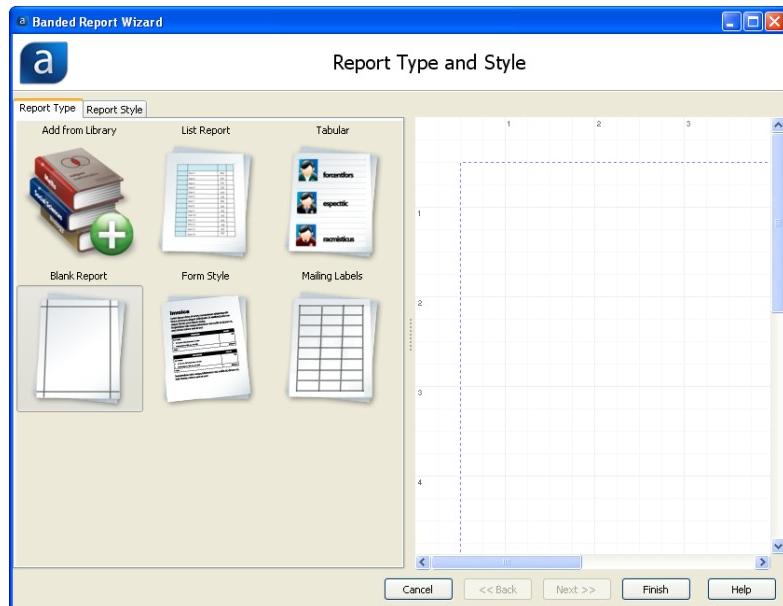


Figure 38 – Selecting the Banded Report Type

For this example, click the “List Report” image, then click Next which brings up the following screen in which you specify which fields are to be included within the report.

The DataBlock form used for this example.

One or more departments can be selected when executing the report.

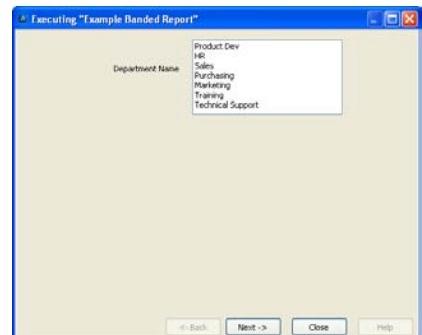


Figure 39 – DataBlock form for this example.

The DataBlock form is created by the DataBlock Designer.

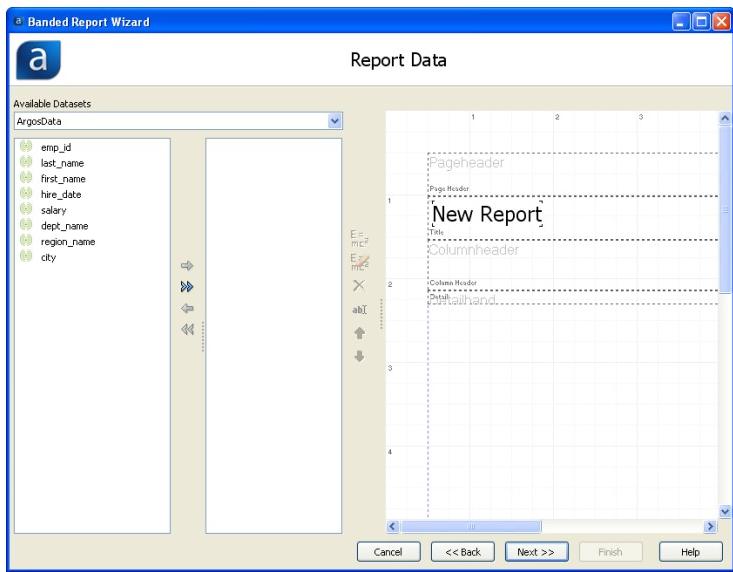


Figure 40 – Selecting fields to include within the report

Including the database fields into the report

Move emp_id, last_name, first_name, hire_date, salary, dept_name, city, and region_name to the area on the right by double-clicking each field name.

When moving fields, click **city** prior to **region_name** to order them in that fashion within the report. After moving the fields to the area on the right you can rearrange the order of fields by highlighting a field then click the up/down arrows to change the order that the fields will appear in the report.

This moves the fields (and corresponding Column Headers) onto the report as shown on the right of the Report Data Window. The Column Headers were generated by DataBlock Designer, however you can change the Column Headers as shown later in this example. Scroll to the right to view the entire width of the report.

To move a field to the right or left, highlight the field then click the appropriate blue arrow. Clicking the double blue arrows moves all fields at once.

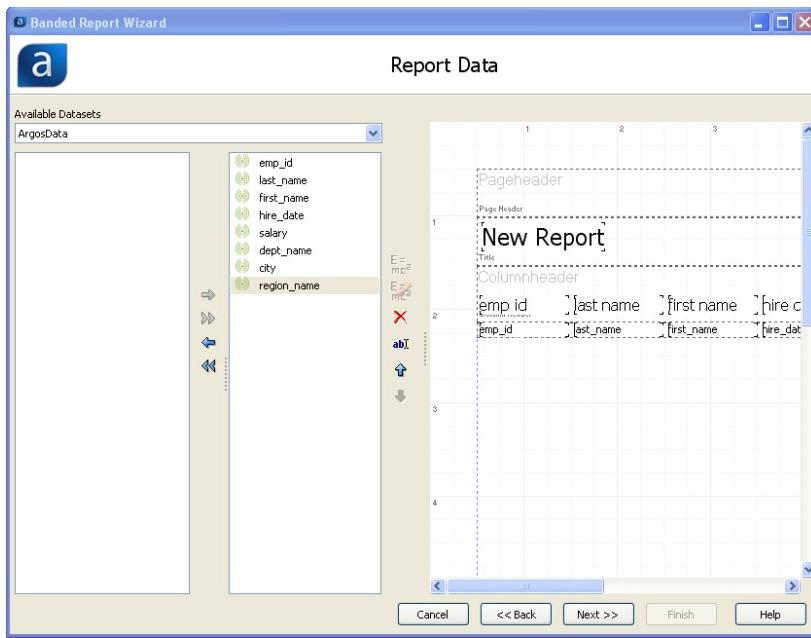
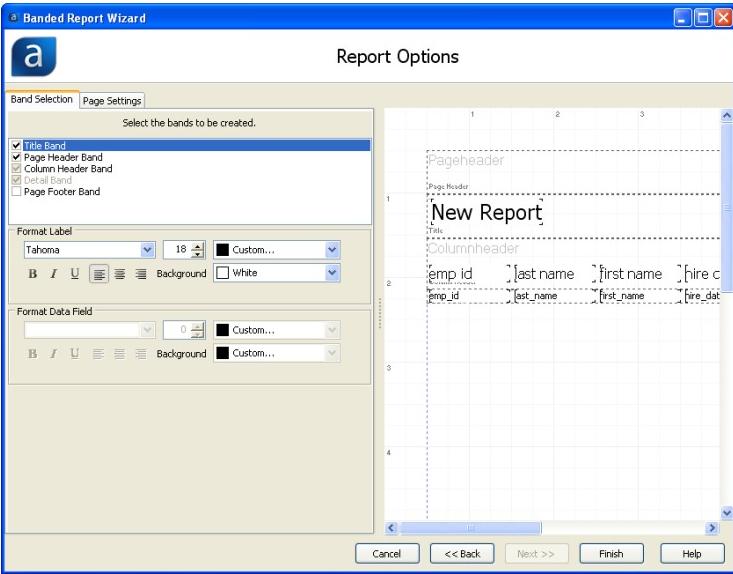


Figure 41 – Specifying which fields will exist within the report

Click Next to bring up the Report Options window shown below.



The Page Settings Tab provides options such as paper size, margins, orientation (portrait/landscape), etc.

Figure 42 – Identifying which bands will be utilized

Choosing the Bands to utilize

Under the Band Selection tab shown above you can decide which bands to include in the report. For the simple example the Page Header Band, Column Header Band, and Detail Band will be utilized. Therefore place check marks into the corresponding boxes.

You can also click the Page Settings tab which allows you to specify various page settings as shown in the figure below.

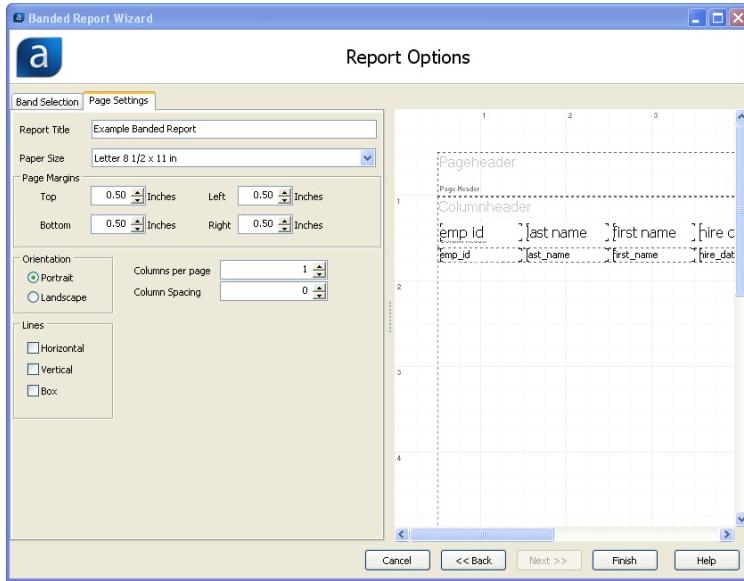


Figure 43 – Selecting Page Settings

Click Finish to launch the Band Report Editor where you can customize the look of the report further.

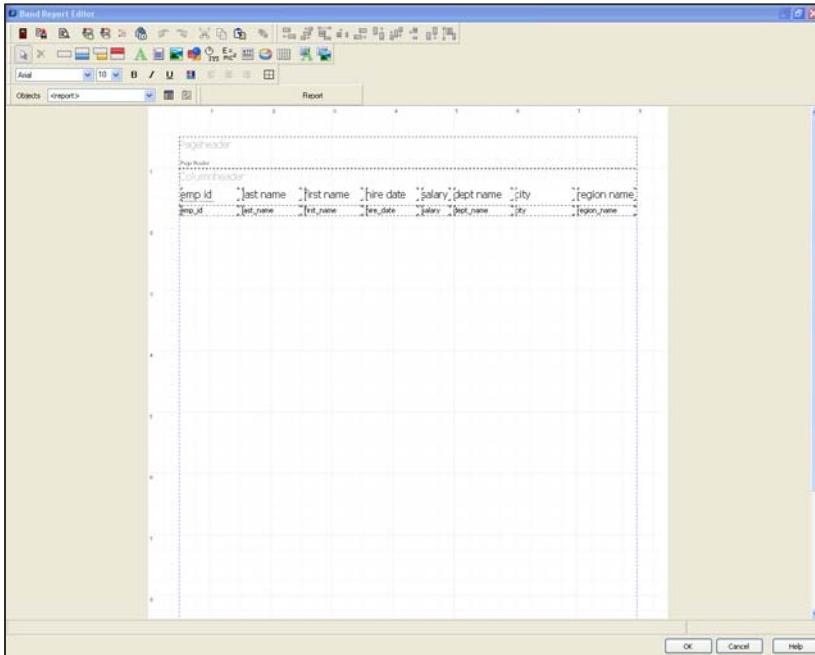


Figure 44 – The Report Format showing Column Headings and Fields

The Band Report Editor shows the current appearance of the report and contains the column headers positioned above the fields to be printed in the report. Note the existence of the three bands (Page Header, Column Header, and Detail).

Band Names

Note the names assigned by Argos (Pageheader, Columnheader, Detail) to the various bands.

Band names can be changed by right clicking within the band, selecting Options, then entering the new band name. Creating meaningful band names is valuable when creating bands that reference other bands.

Editing the Report Design

There are a number of toolbar icons within the Editor that will be discussed further in the next example, but for this report a title will be added to the Page Header band by clicking the **A** icon (Text Field Object) on the toolbar then clicking anywhere within the Page Header band.

The Edit Text Field dialog box will appear in which you can create text for the band as well as change the font size, color, etc. You can also change the background color of the band. Enter "Employee Roster" into the textbox as shown below. Click the font button to change the font size to 18.

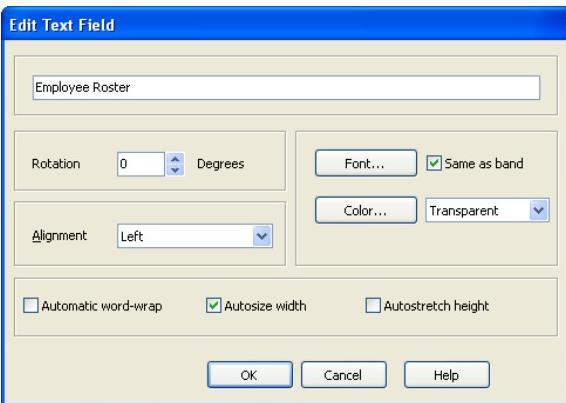


Figure 45 – Properties of the Text Field



Figure 46 – The text field added to the Page Header Band

The title "Employee Roster" will now appear in the Page Header band. Note that the title is not centered, so click within the "Employee Roster" box and drag the field to the desired location. Alternatively you can highlight the field and click the "centering text" icons shown at the right.

You can also right click on the field which brings up a list of properties for the field that can be modified.

You can change the background color of the band by positioning the cursor anywhere within the band (but not on the field just created), right-click then select Edit. Click on the "Color" button to select a background color for the band. For this example, dark grey is selected. The report design now appears as follows:

Adding objects to a Band

Objects are added to various bands within the report by clicking the object on the toolbar, then clicking anywhere within the band where you want the object to be placed. A corresponding dialog box will appear in which you specify the properties of the object.

The In Product Help (F1 key) contains a complete list and description of the available objects.

The Add a Text Field icon within the Band Report Editor toolbar



Centering the text in the title band

To quickly center the text within the title bar horizontally or vertically, click on the text, then click the "Align the selected control to the horizontal center of its parent" button, or click "Align the selected control to the vertical center of its parent" button.



Align to horizontal center of its parent



Align to vertical center of its parent

Employee Roster							
emp id	last name	first name	hire date	salary	dept name	city	region name
emp_id	last_name	first_name	hire_date	salary	dept_name	city	region_name

Figure 47 – Background color of Page Header Band changed

Next the text for the labels in the Column Header will be changed. Right-click on each label, select edit, then type in the new name for the label. In this example, the text for each label will be capitalized.

Execute (or preview) the report and it will look like this (larger font for “Employee Roster”) and all titles capitalized. You may need to reduce the font size of the Column Header fields to 10 to make the report look more readable. Also make the font bold.

Employee Roster							
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	DEPT NAME	CITY	REGION
150	Brown	Bill	2/15/2000	75000	Product Dev	Los Angeles	Southwest
025	Smith	John	1/1/1995	50000	Product Dev	Seattle	Northwest
055	Strauss	Jane	1/15/1996	55000	Product Dev	Los Angeles	Southwest
044	Garcia	Veronica	8/19/2002	84000	Product Dev	Seattle	Northwest
090	Nguyen	Cindy	8/18/2008	96000	Product Dev	Seattle	Northwest
800	Ortega	Celia	5/2/2002	87000	Product Dev	Seattle	Northwest
654	Vong	Patty	6/30/2003	80000	Product Dev	Seattle	Northwest
111	Lackey	Janice	7/5/1995	89000	Product Dev	Los Angeles	Southwest
414	Ramirez	Felicia	2/2/2002	79000	Product Dev	Seattle	Northwest
376	Duvall	Jose	10/22/1987	89000	Product Dev	Seattle	Northwest
429	Marsh	Zooey	8/6/2001	73000	Product Dev	Los Angeles	Southwest
789	Vega	Gwen	3/27/2008	86000	Product Dev	Seattle	Northwest
476	Hayden	Paul	2/22/1994	80000	Product Dev	Seattle	Northwest
243	Carillo	Rita	5/29/2000	85000	Product Dev	Los Angeles	Southwest
546	Fernandez	Jerry	6/30/2007	83000	Product Dev	Seattle	Northwest
421	McClary	Helen	8/14/1999	81000	Product Dev	Los Angeles	Southwest

Figure 48 – The report after adjusting the column headers

As a reminder, you can further edit or sort the report by returning to the Argos navigation pane, highlight the report, then click Edit Report. Click the Filters or Sort Tab to modify the report. For example, to sort the report by Employee ID, enter the Employee ID as shown in the figure below:

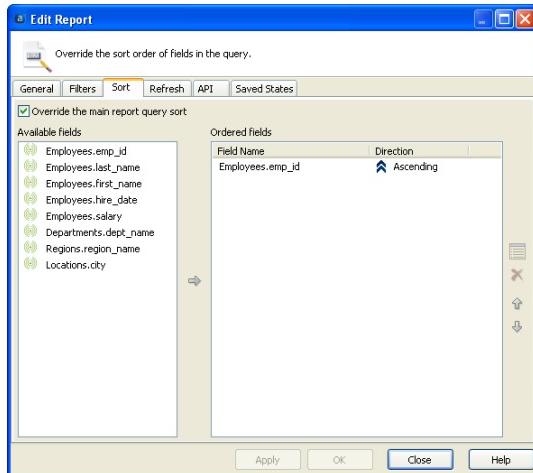


Figure 49 – Sort options

Preview the report

You can obtain a preview of the printed report by clicking the preview icon on the Band Report Editor toolbar.



Saving the report

To save the report, click the Save icon on the Band Report Editor toolbar.



Closing the Band Report Editor

Click the icon on the Band Report Editor toolbar.



After executing the report again you can see the report is now sorted by Employee ID.

Employee Roster							
EMP ID	LASTNAME	FIRSTNAME	HIRE DATE	SALARY	DEPT NAME	CITY	REGION
018	Johnson	Prilla	1/1/2001	44000	Purchasing	Los Angeles	Southwest
019	Walls	William	7/3/1991	67000	HR	Los Angeles	Southwest
023	Cineros	Kenny	3/17/2006	59000	Technical Support	Boston	Northeast
025	Smith	John	1/1/1995	50000	Product Dev	Seattle	Northwest
026	Patterson	Jane	2/4/2004	38000	Sales	New Orleans	South
036	Wilson	Andrew	2/20/1996	40000	Purchasing	Los Angeles	Southwest
044	Garcia	Monica	8/19/2002	84000	Product Dev	Seattle	Northwest
046	Hansen	Michael	4/7/2004	59000	HR	Los Angeles	Southwest
055	Strauss	Jane	1/15/1996	55000	Product Dev	Los Angeles	Southwest
056	Kern	Doug	3/1/2001	36000	Sales	San Francisco	Southwest
072	Rodriguez	Tack	5/10/2003	49000	Technical Support	Boston	Northeast
077	Gray	Tommy	12/13/1998	63000	HR	Los Angeles	Southwest
089	Handy	Mina	2/14/2003	50000	Technical Support	Boston	Northeast
090	Nguyen	Cindy	8/18/2008	96000	Product Dev	Seattle	Northwest
101	Tedale	Isaac	9/29/2000	32000	Sales	Portland	Northwest

Figure 50 – The report after sorting by Employee ID

Your first simple Banded Report is now complete. The next step is to enhance the report to obtain the final report format.

Resizing and Aligning Fields

As fields are added to the report, you may need to resize them to ensure that the contents of the fields will fit into the space allocated by the editor. You will also want to align fields to each other horizontally and vertically to produce an attractive appearance.

Resizing Objects

Selecting an object (left mouse click) displays the boundary of the object with resizing handles. You can increase/decrease the size of the field by dragging the appropriate handle. You can also click on the field and drag it to another location.



Figure 52 – Selected field

For additional resizing options, right-click on the field and select Edit. The Edit dialog box will appear shown in the figure below. Checking the “Autosize width” and “Autostretch height” check boxes will adjust the size of the field to fit the contents of the data, if necessary.

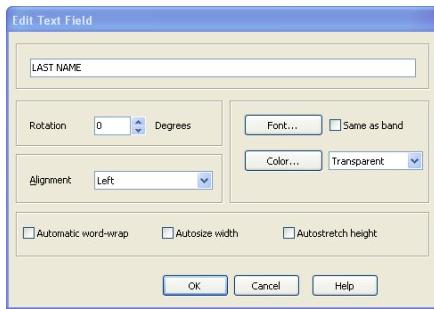


Figure 53 – Field Editing options

Resizing Bands

Bands can be resized using the same methods as resizing objects. Click anywhere within the band (but not on a field) and the boundary of the band will be shown with the sizing handles. The handles can be used to adjust the height of the band.

You can also right-click within the band, and select Options. The following dialog box appears where you can specify the band height as well as other options.



Figure 51 – Band options

Aligning Fields

When repositioning a field by dragging it, Argos will display blue horizontal or vertical alignment guidelines to assist you in aligning a field with other fields. In the figure below, note the blue vertical alignment line (to the left of the "R" in REGION) that appears when moving the REGION title to align it with the region_name field.

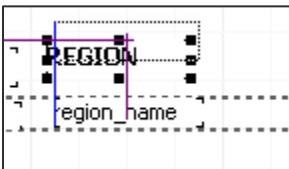


Figure 54 – Alignment guidelines

There are also alignment icons within the Band Report Editor toolbar (shown below) that can be used to align multiple fields to each other. The methods for selecting multiple objects is described below.



Icon	Usage
	Align by left sides
	Align by horizontal centers
	Align by horizontal center of parent
	Stretch to be same horizontal size
	Align by right sides
	Align by top sides
	Align by vertical centers
	Stretch to be same vertical size
	Align by bottom sides
	Align by vertical center of parent

Figure 55 – Alignment icons

Selecting and Aligning Multiple Fields

Multiple fields can be selected by depressing the shift key and clicking on the desired field(s). Each selected field will then be surrounded by a rectangle with small grey boxes on the corners. These fields can be moved or aligned as a group. In the figure below, all fields are surrounded by the small grey boxes, indicating that they are grouped together.



Figure 56 – Grouping fields together

Multiple fields can also be selected by depressing the Ctrl key and dragging the cursor to create a rectangle around the fields that you want to include. All objects enclosed within the box will be individually surrounded by the small grey boxes described above and can be moved or aligned as a group. The rectangle shown in the figure below (created by dragging the cursor) shows seven fields that have been selected and will be treated as a group.



Figure 57 – Selecting multiple objects

When using the alignment tools, select one object, then select additional objects to be aligned using either method described above. All objects will be aligned to the first object selected.

Enhancing the Report

The report will now be enhanced to appear in its final form by:

- Sorting the employees by department name.
- Adding page counts and dates to the report.
- Creating and highlighting groups.
- Summing employee count and salaries by department and by entire company.

Sort Employees by Department Name

Begin by selecting the existing report from the Argos Navigation pane, highlight the report (Example Banded Report) then click Edit Report within the Detail Pane which brings up the Edit Report dialog box.

Since employees are to be grouped by department, click the Sort tab and move Departments.dept_name and Employees.emp_id into the right hand window. Argos will now sort by department name, then by employee ID within each department. Remember to check the “Override the main report query sort” check box, otherwise you will not be able to move any fields.

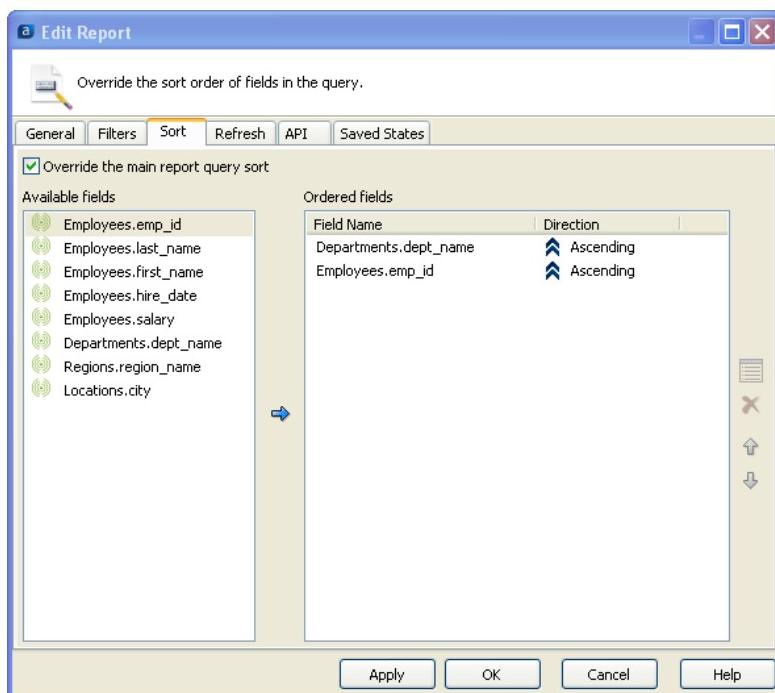
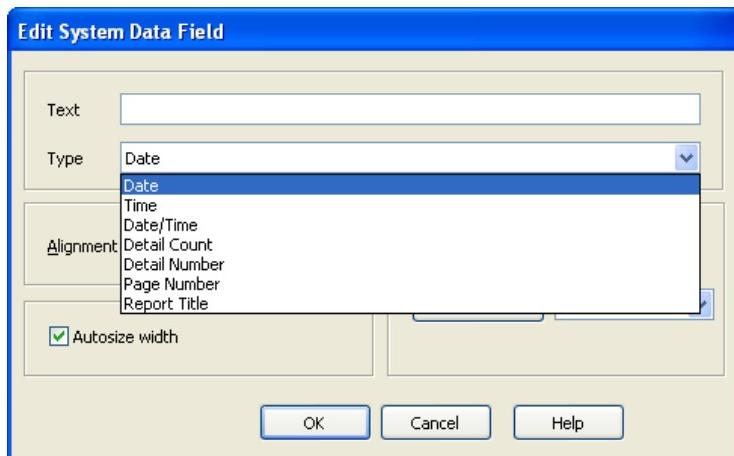


Figure 58 – Sorting by Department Name then Employee ID

Click the Apply button, the General Tab, then the Design button. You will be brought back to the Band Report Editor.

Add Date, Page Number, Page Count

From within the Editor, click the "Add a System Data Field" icon on the toolbar, then click anywhere within the Page Header band.



Add System Data Field Icon on Band Report Editor Toolbar



Figure 59 – Selecting the Date from the list of system data fields

There are a number of Date/Time selections, but select Date for this example. You need not enter anything into the Text field for this example. You will then see the following:



Figure 60 – The Date field added to the Page Header Band

Note the addition of the date field in the Page Header band. Drag the field to the upper right corner of the band.

Next the string 'Page x of y' will be created and placed underneath the date within the Page Header band. Within the Band Report Editor, click the **E=mc²** icon, then click anywhere within the Page Header band.

Click the ellipsis (...) button shown in the figure below.

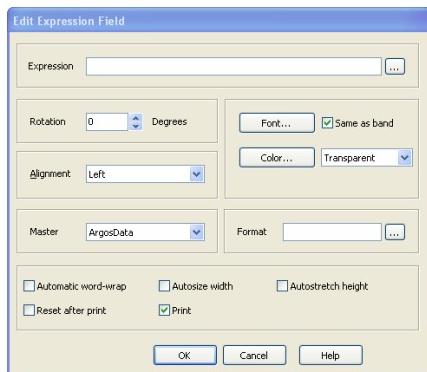


Figure 61 – Building the expression

Enter the first segment of the expression which consists of the string 'Page No. ':

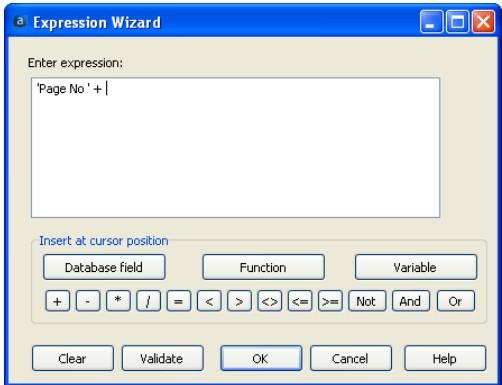


Figure 62 – The first segment of the text string

Click the 'Function' button to display the list of available functions.

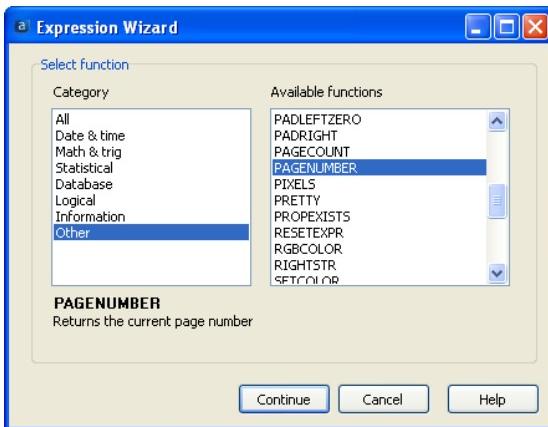


Figure 63 – Select the PAGENUMBER function

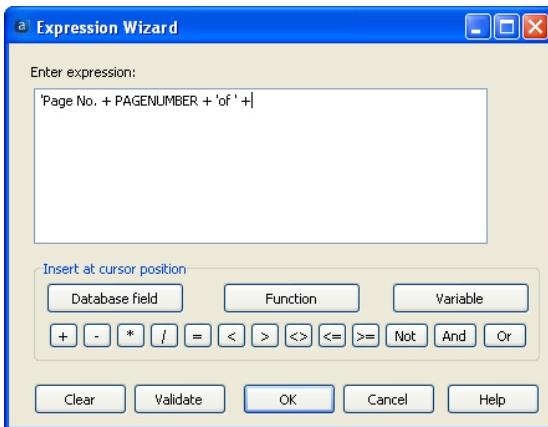


Figure 64 – Enter the remaining segment of the expression

Click the Function button again to display the list of functions again.

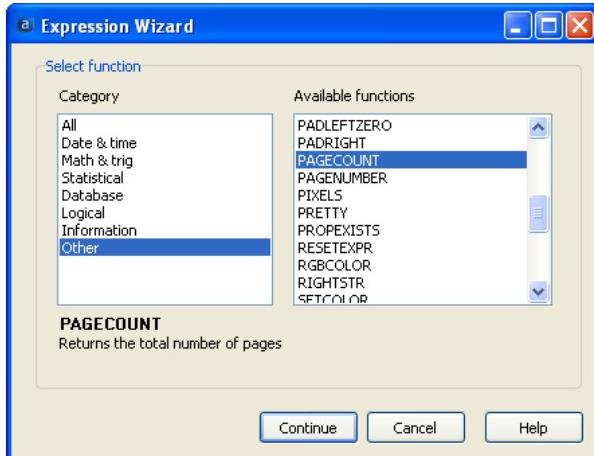


Figure 65 – Select the PAGECOUNT function

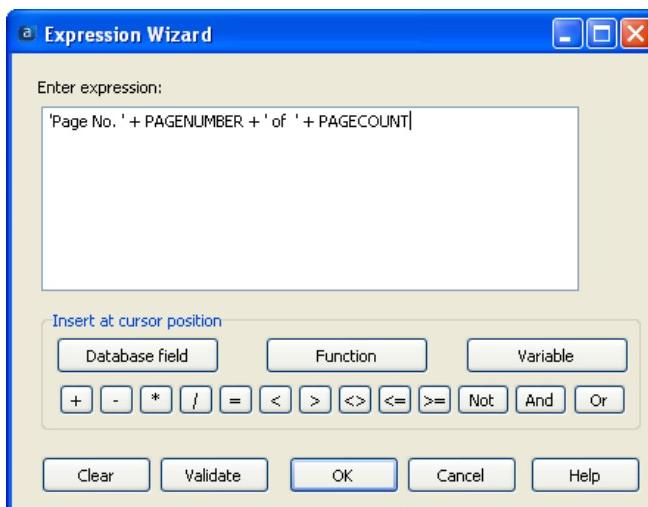


Figure 66 – The completed expression

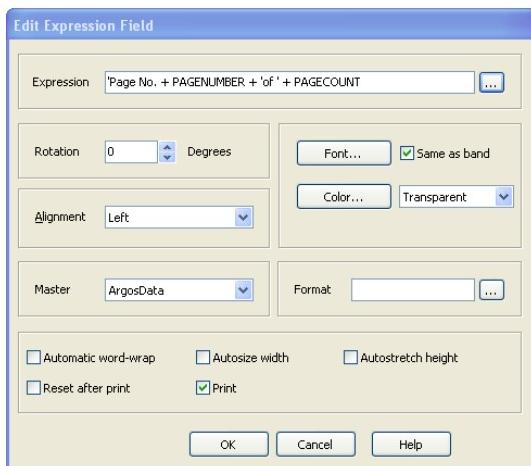


Figure 67 – Select Autosize width to ensure the new field will fit

The new field is now positioned within the Page Header Band. If it is not positioned in the desired location, drag the field until it is underneath the date.

Creating the Group Bands

Next Group Header and Group Footer bands will be created which will surround the Detail Band. Since the report is structured to print employees by department name with an employee count and sum of salaries for each department, use of Groups is necessary.

Within the Band Report Editor, click the “Create a Band Group” icon, then click anywhere within the image of the report. The following dialog box will appear:

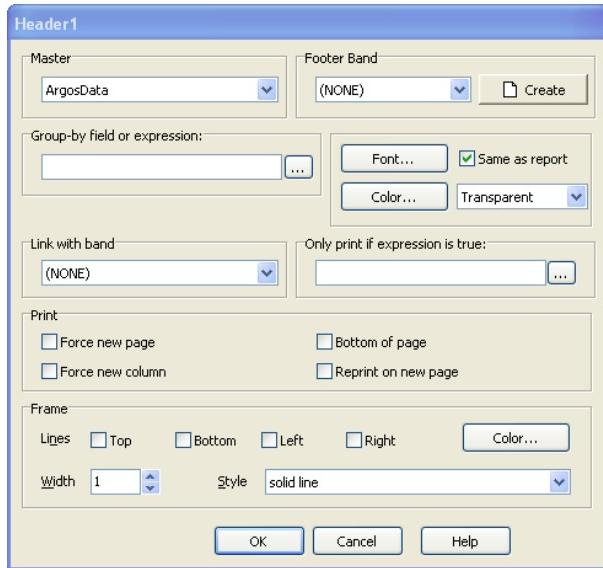


Figure 68 – Adding the Group Header Band

Next, the item that the detail band will be grouped by needs to be entered, therefore click the ellipsis (...) button to the right of “Group by field or expression”. After entering data into several dialog boxes that will appear in succession, you will ultimately cause Argosdata.dept_name to be placed into this field (since the grouping is to be done by department name).



Figure 69 – Selecting Department Name as the database field to group by

Adding bands to the Report

Click on the desired band icon, then click anywhere within the report image displayed within the Editor. The band will then be added to the report.

“Create a Band Group” icon within Band Report Editor Toolbar



Band Groups are processed as follows:

Before printing the first record in the Detail band, the Group Header is printed.

The first Detail record is printed.

The Group-by Field in the next Detail record is examined:

-If the Group-by Field has the same value as the previous detail record, the next Detail record is printed.

-If the Group-by Field has a different value than the previous record, the Group Footer is printed. A new Group Header and the next Detail record is printed.

The Group-by Field can be a simple Data Field from the dataset, or can be a complex Expression. If you wish to create a Band Group, you should ensure that your data is sorted (ORDER BY) on the Data Field(s) or Expressions(s) you wish to use.

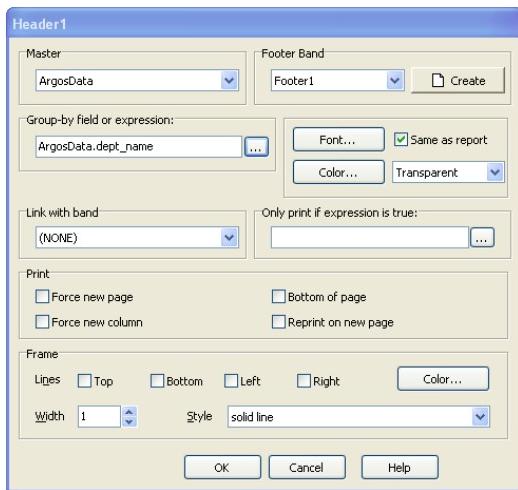


Figure 70 – Adding the database field to Group-by field listbox

Enter dept_name into the group-by field or expression textbox. A later example will illustrate how to group by an expression as opposed to this example where grouping is done by database field.

Click the Create button at the upper right to create a corresponding Group Footer, then click OK.

The Banded Editor will now appear as follows:

Employee Roster						
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	DEPT NAME	CITY
Header1				Date Page No. +PAGEN		
Temp_id	Last_name	First_name	Hire_date	Salary	Dept_name	City

Figure 71 – The Banded Editor showing the Group Header/Footer Bands

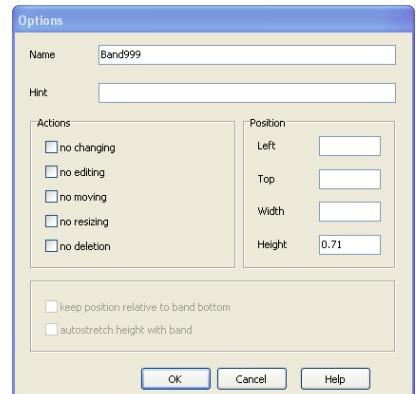
Note the existence of the Group Header (Header 1) and Footer Bands (Footer 1) surrounding the Detail Band.

Remember that when grouping by a particular field (dept. name in this example), the data must be sorted by the same field.

Renaming Bands

Argos generates names for each band. Note on the figure to the left that "Pageheader" is the label given to the Page Header Band and "Columnheader" is the name given to the Column Header Band.

To change the name of the band, right click anywhere within the band and click on "Options"



Within the "Name" field enter the name of your choice (spaces between words are not permitted). The new name will replace the name given by Argos.

When many bands are created in a complex report, creating meaningful names will be useful when referencing bands.

At this point the report will look like this:

Employee Roster							3/18/2010	Page No 1 of 2
EMP ID	LASTNAME	FIRSTNAME	HIREDATE	SALARY	DEPT NAME	CITY	REGION	
019	Walls	William	7/3/1991	67000	HR	Los Angeles	Southwest	
046	Hansen	Michael	4/7/2004	59000	HR	Los Angeles	Southwest	
077	Gray	Tommy	12/13/1998	63000	HR	Los Angeles	Southwest	
155	Green	Harold	2/15/2000	60000	HR	Los Angeles	Southwest	
624	Parker	Courtney	7/22/1999	62000	HR	Los Angeles	Southwest	
118	Holmes	Lincoln	9/9/2007	70000	Marketing	Atlanta	Southeast	
189	Bailey	Miles	3/31/1999	76000	Marketing	Atlanta	Southeast	
612	Wallace	Gary	11/18/2003	77000	Marketing	Atlanta	Southeast	
650	Jackson	Mary	1/1/1995	50000	Marketing	Atlanta	Southeast	
683	Hai	Paul	10/17/2003	74000	Marketing	Atlanta	Southeast	
025	Smith	John	1/1/1995	50000	Product Dev	Seattle	Northwest	
044	Garcia	Veronica	8/19/2002	84000	Product Dev	Seattle	Northwest	
055	Strauss	Jane	1/15/1996	55000	Product Dev	Los Angeles	Southwest	
090	Nguyen	Cindy	8/18/2008	96000	Product Dev	Seattle	Northwest	
111	Lackey	Janice	7/5/1995	89000	Product Dev	Los Angeles	Southwest	
150	Brown	Bill	2/15/2000	75000	Product Dev	Los Angeles	Southwest	
199	Navarro	Dianne	6/22/2004	78000	Product Dev	Seattle	Northwest	
243	Carillo	Rita	5/29/2000	85000	Product Dev	Los Angeles	Southwest	

Figure 72 – The Report showing the grouping by Department Name

Note the grouping by Department Name as well as the existence of the date and page count at the top right of the report.

The following will now be done:

- Move the department name into the Group Header Band
- Add background color to the Group Header Band
- Add a child band after the Group Header band which will contain column headers. The existing column header band will then be removed.
- Add employee count and sum of salaries for each department in the Group Footer Band.
- Add a summary band containing a total employee count and sum of salaries.

Moving Dept. Name to Group Header Band

You cannot drag a field from one band to another, so to move the department name to the Group Header Band, perform a cut and paste operation. Cut the dept_name field from the Detail Band and paste it into the Group Header Band. You will need to move the city and region fields to the left due to the removed dept_name. Also, drag the dept_name field that now resides within the Group Header Band to the desired location.

Right-click the Group Header Band, and click Edit. Then choose a background color from the color button within the displayed dialog box.

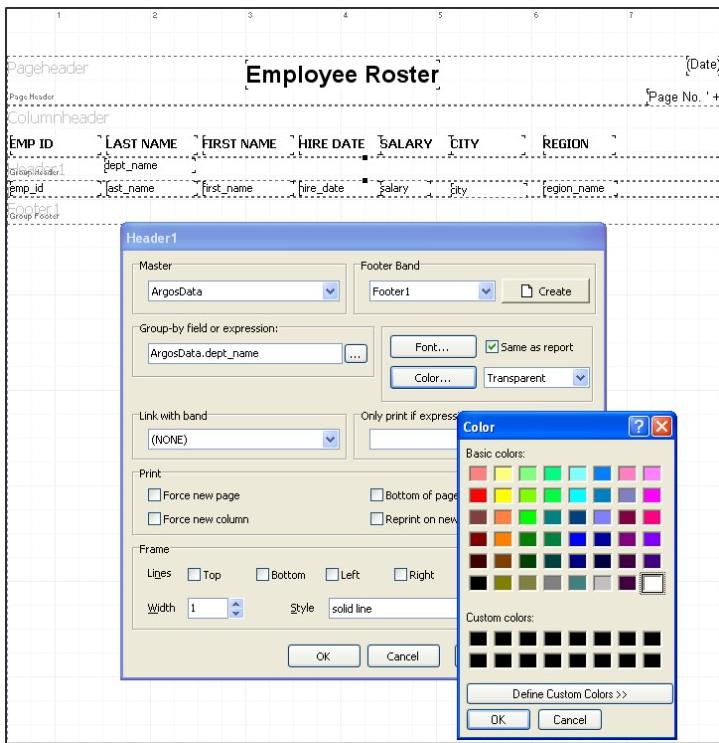


Figure 73 – Adding a background color to the Group Header Band

After this is completed, delete the column header for department name.

After some resizing and repositioning of fields, the report should look like this:

Employee Roster						
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION
019	Walls	William	7/3/1991	67000	Los Angeles	Southwest
046	Hansen	Michael	4/7/2004	59000	Los Angeles	Southwest
077	Gray	Torrey	12/13/1998	63000	Los Angeles	Southwest
119	Green	Harold	2/15/2000	60000	Los Angeles	Southwest
624	Parker	Courtney	7/22/1999	62000	Los Angeles	Southwest
Marketing						
118	Holmes	Lincoln	9/9/2007	70000	Atlanta	Southeast
209	Baker	Willie	3/31/1999	76000	Atlanta	Southeast
612	Wallace	Gary	11/16/2003	77000	Atlanta	Southeast
650	Jackson	Mary	1/1/1999	50000	Atlanta	Southeast
660	Hai	Paul	10/27/2003	74000	Atlanta	Southeast
Product Dev						
025	Smith	John	1/2/1999	50000	Seattle	Northwest
044	Garcia	Veronica	8/29/2002	84000	Seattle	Northwest
055	Strauss	Jane	1/25/1996	55000	Los Angeles	Southwest
090	Nguyen	Cindy	8/31/2006	96000	Seattle	Northwest
111	Ladley	Jeanne	7/5/1999	88000	Los Angeles	Southwest

Figure 74 - Highlighting the Group Header Band

Add Child Band Following the Group Header Band

Rather than printing the column headings at the top of each page, it is desired to print them immediately after the Group Header Band. Therefore a Child Band will be used to accomplish this.

Within the Band Report Editor click the "Create a New Child Band" icon, then click anywhere within the report image. The following dialog box will be displayed. You must enter the Parent Band, therefore select "Header 1" (which is the name of the Group Header band) as shown in the figure below.

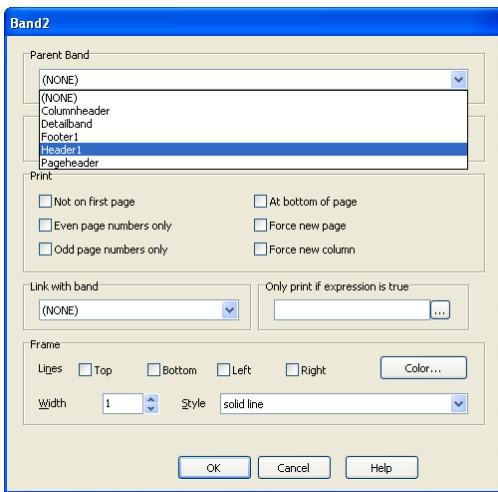


Figure 75 – Adding a Child Band beneath the Group Header Band

After clicking the OK button, a Child Band named Band2 now exists underneath the Group Header Band. The column headers will now be copied from the Column Header Band into the Child Band. After this is done, you may need to resize/reposition the fields within the Child Band. You can delete the Column Header Band by right-clicking on it and selecting delete.

Finally, change the background color of the Child Band to blue.

The resulting report format within the Editor appears as follows:

Employee Roster						
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION
emp_id	last_name	first_name	hire_date	salary	city	region_name
Group Footer						

Figure 76 – The report format with the Child Band

Note the Child Band (Band2) beneath the Group Header Band.

Create a new child band using the icon within the Band Report Editor toolbar



Employee Roster							3/18/2010
							Page No 1 of 2
HR							
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION	
019	Walls	William	7/3/1991	67000	Los Angeles	Southwest	
046	Hansen	Michael	4/7/2004	59000	Los Angeles	Southwest	
077	Gray	Tommy	12/13/1998	63000	Los Angeles	Southwest	
155	Green	Harold	2/15/2000	60000	Los Angeles	Southwest	
624	Parker	Courtney	7/22/1999	62000	Los Angeles	Southwest	
Marketing							
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION	
118	Holmes	Lincoln	9/9/2007	70000	Atlanta	Southeast	
189	Bailey	Miles	3/31/1999	76000	Atlanta	Southeast	
612	Wallace	Gary	11/18/2003	77000	Atlanta	Southeast	
650	Jackson	Mary	1/1/1995	50000	Atlanta	Southeast	
683	Hai	Paul	10/17/2003	74000	Atlanta	Southeast	
Product Dev							
EMP ID	LAST NAME	FIRST NAME	HIRE DATE	SALARY	CITY	REGION	
025	Smith	John	1/1/1995	50000	Seattle	Northwest	
044	Garcia	Veronica	8/19/2002	84000	Seattle	Northwest	
055	Strauss	Jane	1/15/1996	55000	Los Angeles	Southwest	
090	Nguyen	Cindy	8/18/2008	96000	Seattle	Northwest	
111	Lackey	Janice	7/5/1995	89000	Los Angeles	Southwest	

Figure 77 – The report showing the Group and Child Bands

Note that the column headers are now printed under each Group Header Band.

Add Employee Count and Salary Sum

Next a count of employees and sum of salaries for each department will be placed within the Group Footer Band and will print after the Detail Band for each department.

The employee count and salary sum will be done using the Expression Wizard.

Click on the “Add an Expression Field” icon on the Band Report Editor toolbar, then click anywhere within the Group Footer Band. The following dialog box will appear. Click the ellipsis button (...) to bring up the Expression Wizard.

Since the count must be reset to zero for each band group, you need to check the “Reset after print” box.

Add an Expression Field icon within the Band Report Editor toolbar

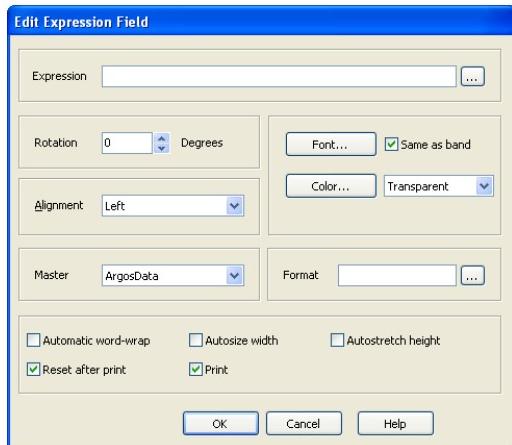


Figure 78 – Resetting values of expression after printing

Build the following within the Expression Wizard using the same procedure as described above for the PAGENUMBER and PAGECOUNT fields. The COUNT function is found under the Statistical category within the Wizard. You may need to extend the width of the field to have it print correctly (or check the "Autosize width" box in the previous figure to allocate sufficient room for the field).

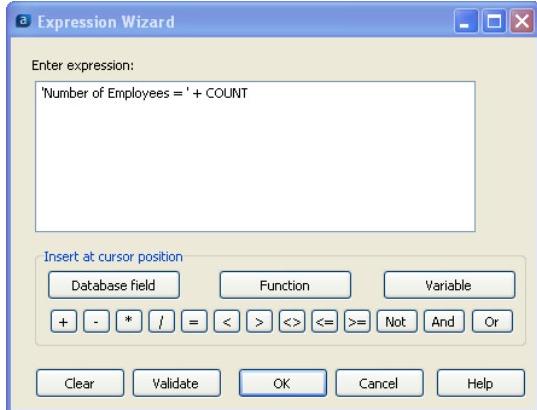


Figure 79 – Creating an expression for Employee Count

Create Sum of Salaries Expression

In a similar fashion use the Expression Wizard to create a sum of salaries. This is a bit more involved than the COUNT function since the SUM function requires additional input. You will need to select the DataBlock field 'salary' as the parameter to be used within the SUM function as summarized below (not all steps are shown since they are to those used in the expressions illustrated earlier).

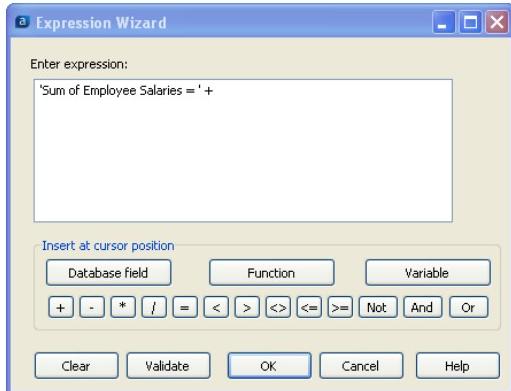


Figure 80 – Enter the first segment of the expression

Click Function to continue.

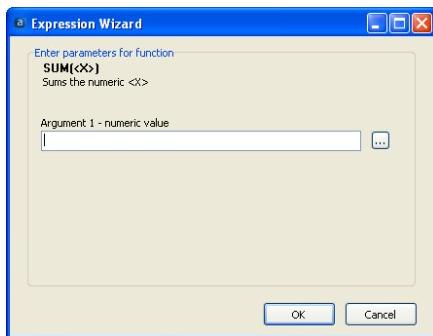


Figure 81 – Selecting the parameter for SUM function

Click the ellipsis button.



Figure 82 – Selecting the database field

Select “Database field” since the parameter for the SUM function is the employee salary and comes from the DataBlock.

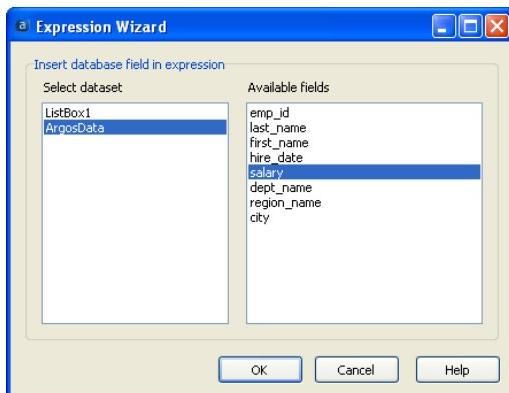


Figure 83 – Selecting the salary field

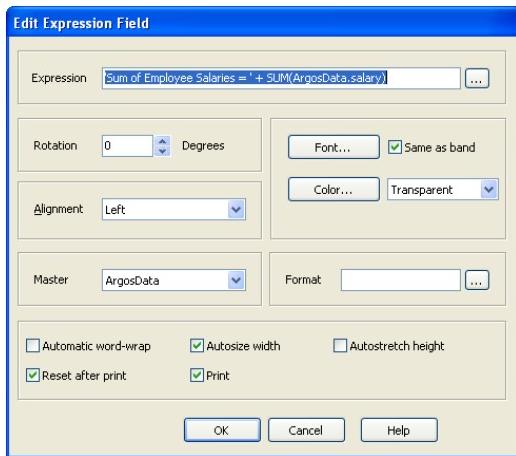


Figure 84 – The completed expression

As was done with the COUNT function, check the “Reset after print” box to reset the sum to zero for each band.

Also, check “Autosize width” to guarantee that enough room will be set aside for the new field to print.

This item will be placed under the employee count field, thus you may need to increase the height of the band for the new field to fit. You may also select “Autostretch height” and the height of the band will be increased for you.

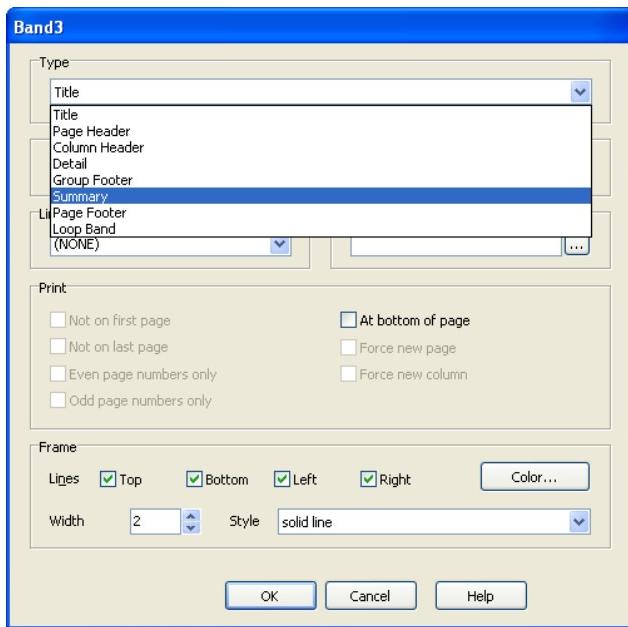
Position the new fields just created by clicking each field then dragging it to the desired location within the band.

Adding the Summary Band

A Summary Band which will now be created will contain the employee count and sum of salaries for **all** departments. Recall that the Summary Band always prints on the last page, immediately before the Page Footer Band.

Click on the “Create a new band” icon on the Band Report Editor toolbar, then click anywhere within the report image. The following dialog box shown in the figure below will appear. For the Type, select “Summary”.

A frame will be placed around the band, thus check the Top, Bottom, Left, Right check boxes as shown below, and set the line width to 2.



Create a new Summary Band using the icon within the Band Report Editor toolbar



Figure 85 – Adding the Summary Band

Employee Roster						
	dept_name				(Date)	Page No ' +PAGEN
Group Header	emp_id	last_name	first_name	hire_date	salary	city
Group Footer	emp_id	last_name	first_name	hire_date	salary	city
Footer1 Number of Employees = '+ COUNT Sum of Employee Salaries = '+ SUM(ArgosData.salary)						
Group Footer						
Band3						
Summary						

Figure 86 – The Report Format after adding the Summary Band

Notice the new Summary Band at the bottom of the report with the solid line surrounding the band.

Now add the employee count and sum of salaries to the Summary Band by copying the expressions from the Group Header Band and pasting them into the Summary Band.

The final page of the report will now appear as follows:

Training						
EMP ID	LASTNAME	FIRSTNAME	HIRE DATE	SALARY	CITY	REGION
222	Becker	Brian	7/25/2003	48000	Houston	South
700	Ford	Jeremy	2/15/1990	50000	Houston	South
701	Hale	Gus	3/3/2000	55000	Houston	South
719	Roberts	Donald	12/29/2009	40000	Chicago	Midwest
790	Manab	Aaron	5/4/2001	43000	Chicago	Midwest

Number of Employees = 5
Sum of Employee Salaries = 236000

Number of Employees = 62
Sum of Employee Salaries = 3722000

Figure 87 –Employee count and salary sum within Group & Summary Bands

Note the total employee count and sum of salaries as well as the frame around the Summary Band. The final report now appears as shown below.

Employee Roster							3/18/2010	Page No 1 of 1
HR		Group Header Band						
EMP ID	LASTNAME	FIRSTNAME	HIRE DATE	SALARY	CITY	REGION	Detail Band	
019	Walls	William	7/3/1991	67000	Los Angeles	Southwest		
046	Hansen	Michael	4/7/2004	59000	Los Angeles	Southwest		
077	Gray	Tommy	12/13/1998	63000	Los Angeles	Southwest		
155	Green	Harold	2/15/2000	60000	Los Angeles	Southwest		
624	Parker	Courtney	7/22/1999	62000	Los Angeles	Southwest		

Group Footer Band							Number of Employees = 5 Sum of Employee Salaries = 311000	
Product Dev								
EMP ID	LASTNAME	FIRSTNAME	HIRE DATE	SALARY	CITY	REGION		
025	Smith	John	1/1/1995	50000	Seattle	Northwest		
044	Garcia	Veronica	8/19/2002	84000	Seattle	Northwest		
055	Strauss	Jane	1/15/1996	55000	Los Angeles	Southwest		
090	Nguyen	Cindy	8/18/2008	96000	Seattle	Northwest		
111	Lackey	Janice	7/5/1995	89000	Los Angeles	Southwest		
150	Brown	Bill	2/15/2000	78000	Los Angeles	Southwest		
199	Navarro	Dianne	6/22/2004	78000	Seattle	Northwest		
243	Carilo	Rita	5/29/2000	85000	Los Angeles	Southwest		
309	Rossi	Franco	6/27/2009	85000	Los Angeles	Southwest		
376	Duvall	Jose	10/22/1987	89000	Seattle	Northwest		
414	Ramirez	Felicia	2/2/2002	79000	Seattle	Northwest		
421	McClary	Helen	8/14/1999	81000	Los Angeles	Southwest		
429	Marsh	Zoey	8/6/2001	73000	Los Angeles	Southwest		
476	Hayden	Paul	2/22/1994	80000	Seattle	Northwest		
489	Pearce	Sydney	10/31/1994	90000	Los Angeles	Southwest		
546	Fernandez	Jerry	6/30/2007	83000	Seattle	Northwest		
654	Vong	Patty	6/30/2003	80000	Seattle	Northwest		
779	Swanson	Joy	3/17/2005	87000	Los Angeles	Southwest		
789	Vega	Gwen	3/27/2008	86000	Seattle	Northwest		
800	Ortega	Celia	5/2/2002	87000	Seattle	Northwest		

Number of Employees = 20 Sum of Employee Salaries = 1612000	Summary Band
--	--------------

Figure 88 – The completed report

The report above consists of only one page because in the parameter query for this particular figure, only the HR and Product Development Departments were selected. There are actually 7 departments within the sample database that could have been chosen for this report.

Additional Group Bands

This example utilizes a single Group Band to group employees by department name. If desired, additional Group Bands could be created to group, for example, by Region. Thus, nesting of Group Bands provides multi-levels of grouping.

When creating an additional Group Band, if Argos does not place the band in the desired order, you can drag the band to the correct location. Argos will always place the new group band immediately in front of the detail band.

It is recommended that the outermost group be created first, followed by inner groups. Using this method generally does not require that group bands be moved.

Not all bands are movable due to the nature of the various band types. For example the Summary Band always exists at the bottom of the report and cannot be moved.

Formatting Numeric Output

Example 2

Introduction

The Banded Report in the previous example shows the sum of salaries without any formatting, that is, without dollar signs or commas. Instead of printing "Total Sum of Employee Salaries = 1923000 in the Summary Band, it is desired to print it as \$1,923,000.

To format the output you need to edit the field within the Band Editor. Right-click the field to be formatted which brings up the Edit Expression Field dialog box shown below.

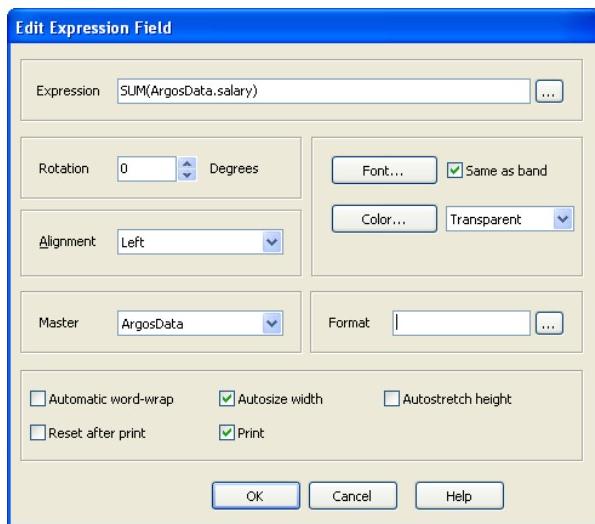


Figure 89 – Choosing the field to be formatted

Selecting/Creating the Format Mask

To format the field, click the ellipsis button to the right of "Format" which brings up the "Edit Format Mask" dialog box (shown below) that provides options for formatting both numeric and date fields.

You can select one of the pre-existing formats or create your own mask. To select one of the pre-existing formats, double-click the desired format shown within the lower window. The selected option will then appear in the box at the bottom of the window as shown below. You can also create your own format by using the formatting characters described at the top of the Edit Format Mask dialog box.

Edit Format Mask

Choose one of the existing formats (double-click) or enter your desired mask in the text box at the bottom of the Edit Format Mask dialog box.

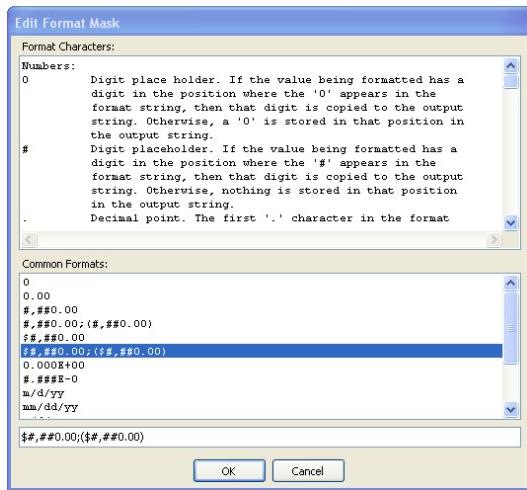


Figure 90 – Selecting the formatting option

The field being edited will then be displayed using the format chosen.

However, the example above needs to be modified in order to use the formatting since the field containing the sum also contains a leading string "Total Sum of Employee Salaries". Argos cannot format the entire field since the expression also contains a string.

Therefore the leading string must be separated from the SUM, and only the SUM field should be formatted.

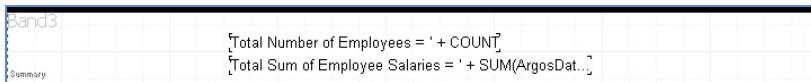


Figure 91 – The expression as one string

To accomplish this, edit the field above to remove the leading string. Then apply the format to the SUM function. To replace the leading string you will need to add a new text field and position it immediately to the left of the SUM function.

The figure below shows that there are now two separate fields (the leading string and the SUM field).

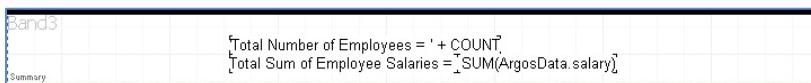


Figure 92 – The expression separated into 2 fields

The new fields will print as shown below and contains the dollar sign and commas:

654	Vong	Patty	6/30/2003	00000	Seattle	Northwest
779	Swanson	Joy	3/17/2005	87000	Los Angeles	Southwest
789	Vega	Gwen	3/27/2008	86000	Seattle	Northwest
800	Ortega	Celia	5/2/2002	87000	Seattle	Northwest
Number of Employees = 20						
Sum of Employee Salaries = 1612000						
<hr/>						
Total Number of Employees = 25						
Total Sum of Employee Salaries = \$1,923,000.00						

Figure 93 – The formatted numeric output printed

The same procedure can be used to format the Sum of Employees Salaries within the Group Footer Band.

Group By Expression

Example 3

Introduction

The previous examples illustrated how to group employees by department, where the database field dept_name was used as the field to group by. It is also possible to group where an expression defines the grouping criteria. This will be demonstrated in this example where the employee list will be grouped by the first letter of the employee last name. An expression will be developed to be used as the criteria for grouping.

The desired output is shown in the figure below

Employee Roster						
Last Name	First Name	Hire Date	Salary	City	Region	
A						
Allen	George	6/3/1999	36000	New Orleans	South	
B						
Bailey	Miles	3/31/1999	76000	Atlanta	Southeast	
Becker	Brian	7/25/2003	48000	Houston	South	
Brown	Bill	2/15/2000	75000	Los Angeles	Southwest	
C						
Carillo	Rita	5/29/2000	85000	Los Angeles	Southwest	
Carter	Alexander	6/15/1997	44000	Los Angeles	Southwest	
Chen	Mason	9/29/1994	49000	Boston	Northeast	
Cineros	Kenny	3/17/2006	55000	Boston	Northeast	
D						
Duvall	Jose	10/22/1987	89000	Seattle	Northwest	
F						
Farris	Victoria	1/29/2002	32000	Miami	Southeast	
Fernandez	Jerry	6/30/2007	63000	Seattle	Northwest	
Ford	Jeremy	2/15/1990	50000	Houston	South	

Figure 94 – Grouping by First Letter of Last Name

The steps to follow are:

- Sort by Employee Last Name.
- Create a Group Band and set its background color to light grey.
- Create an expression to obtain the first letter of the last name and place it within the “Group-by-field or expression” box.
- Place the expression into the Group Band Header to highlight the groupings (see the bold letters in the above figure).

When grouping by a particular field (Employee last name in this example), the data must be sorted by the same field.

Create the Basic Report

Begin by creating a report and within the “Edit Report” dialog box click the Sort Tab and sort by Employee Last Name.

Within the Edit Report dialog box, click the Design button to bring up the Band Report Editor and create a simple report as shown in the figure below:

Employee Roster					
Last Name	First Name	Hire Date	Salary	City	Region
last_name	first_name	hire_date	salary	city	region_name

Figure 95 – The format of the report prior to creating groups

Create a Band Group

Create a band group by clicking the “Create a Band Group” icon on the Band Report Editor toolbar. The Header dialog box will appear as shown below. Since grouping by the first letter of the employee last name is to be done, you need to enter an appropriate expression into the “Group-by-field or expression” box.

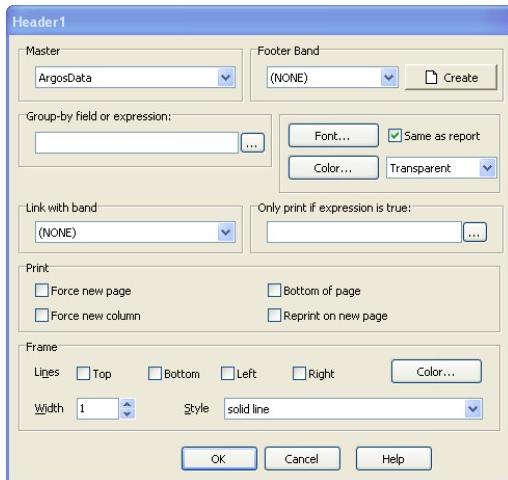


Figure 96 – Creating the Group Header Band

Add a color to the band by clicking the “Color” button, then select light grey.

Create the Expression

To create the expression, click the ellipsis button then select the COPY function via double-click.

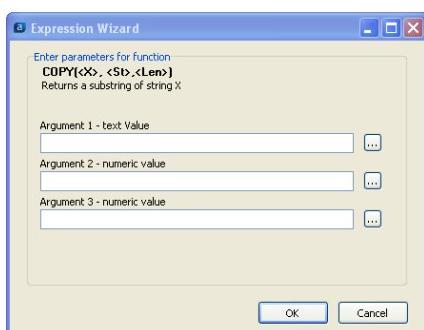


Figure 97 – Selecting the COPY function

The COPY function returns a substring, and for this example you need to choose the Employee Last Name field from the database (using the same method as in previous examples) and return the first character from the string by entering the following:

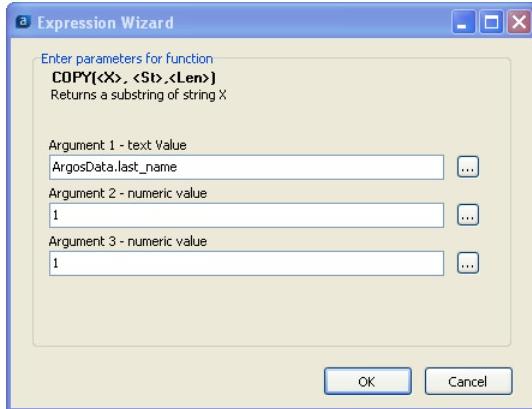


Figure 98 – Obtaining the first letter of the last name

The expression to return the first letter of the last name has now been inserted into the Group-by-field or expression box. The grouping is now handled by an expression, as opposed to an earlier example where grouping was done by a database field name.

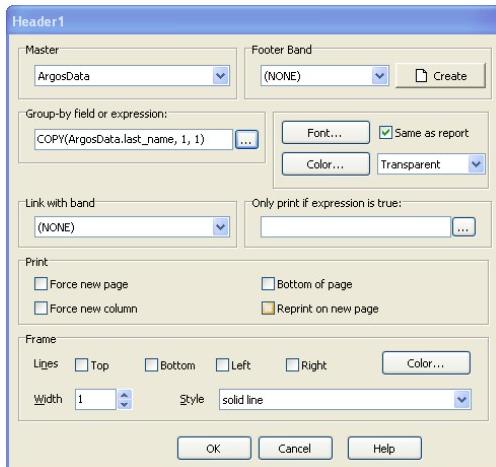


Figure 99 – The expression entered into the Group-by-field or expression box

Place Expression into Group Header Band

The final step is to place the same expression into the Group Header such that the first letter of the last name is displayed within the Group Header. To accomplish this, click **E=mc²** on the toolbar, then click within the Group Header Band. Then enter the same expression as before.

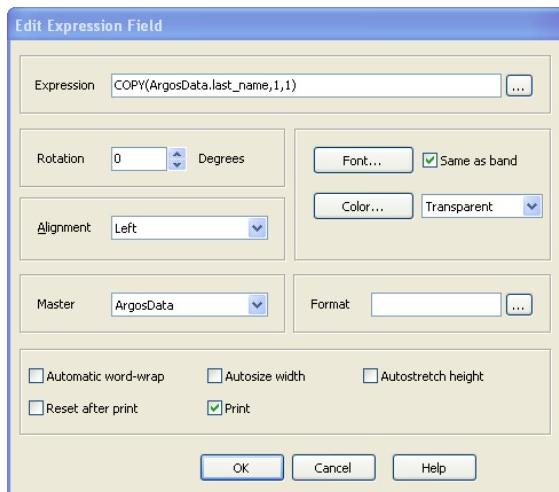


Figure 100 – Adding the expression to print within the Group Header

Drag the field containing the expression to the left edge, then set the font to 14 point bold.

The desired report will print as follows:

Employee Roster					
Last Name	First Name	Hire Date	Salary	City	Region
A					
Alden	George	6/3/1999	36000	New Orleans	South
B					
Bailey	Miles	3/31/1999	76000	Atlanta	Southeast
Becker	Brian	7/25/2003	48000	Houston	South
Brown	Bill	2/15/2000	75000	Los Angeles	Southwest
C					
Carillo	Rita	5/29/2000	85000	Los Angeles	Southwest
Carter	Alexander	6/15/1997	44000	Los Angeles	Southwest
Chen	Mason	9/29/1994	49000	Boston	Northeast
Cineros	Kenny	3/17/2006	95000	Boston	Northeast
D					
Duvall	Jose	10/22/1987	89000	Seattle	Northwest
F					
Farris	Victoria	1/29/2002	32000	Mari	Southeast
Fernandez	Jerry	6/20/2007	83000	Seattle	Northwest
Ford	Jeremy	2/15/1990	50000	Houston	South

Figure 101 – The final report grouped by first letter of employee last name

Creating Mailing Labels

Example 4

Introduction

The **Argos** Band Editor can be used to generate labels for an extensive list of labels from many different manufactures. You can also create your own custom label size as well.

Select the Mailing Labels Report Type

To use the Band Editor to generate labels, begin the report creation using procedures outlined in previous examples. However, on the form where you select the Report type, choose the 'Mailing Labels' option.

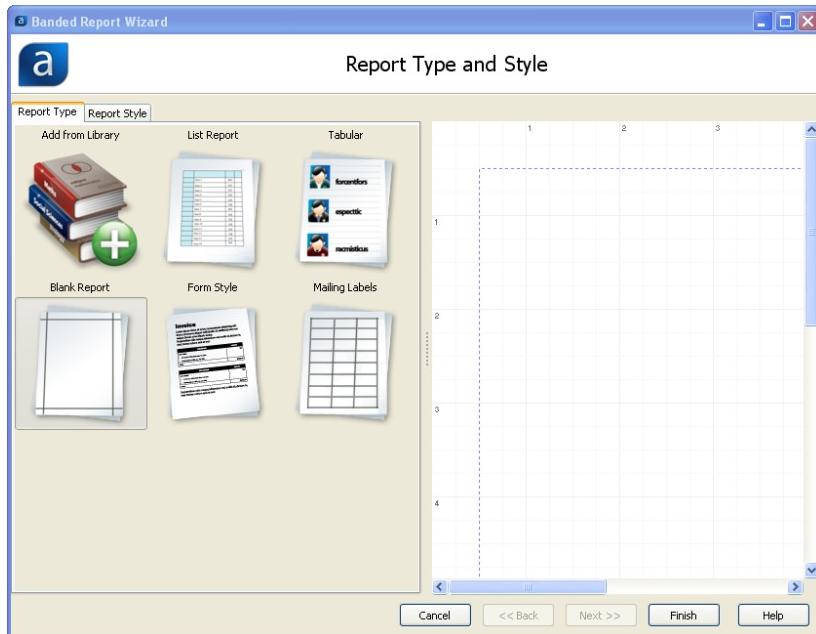


Figure 102 – Selecting the Mailing Label Report Type

Click Finish to continue.

Select the fields to use

On the next form, select the fields that you would like to appear on the label .

This example will once again use the Employees table in the sample database.

Select last_name, first_name, city, Street_Line1, Street_Line2, Street_Line3, State, and Zip.
Click Next to continue.

The next form allows you to choose the Label Format. First select the Vendor, and then the Format. For this example select the vendor Avery Standard, using the 2163 layout. Click Finish to continue.

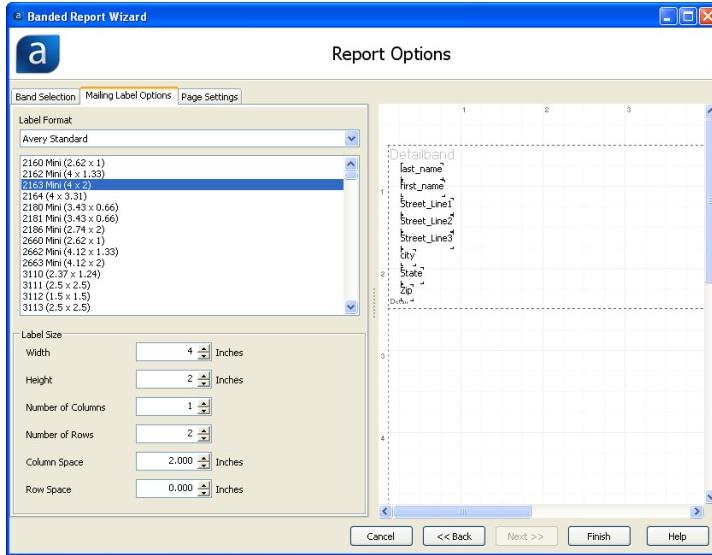


Figure 103 – Selecting the Mailing Label Type

Note: If the label you are using is not listed, select one that is close to what you are using as you will be given opportunity later on to change the size and position of the individual label.

On the figure above, a sample of the layout is displayed. The Band Editor has already selected the proper margins for the selected label, however, you can change these if required. Click Finish to continue.

Edit the Fields

The Band Report Editor is then displayed with the label existing within the Detail Band. You are now free to change the characteristics of the data (font size, font color, etc) within the Band by right-clicking anywhere within the band.

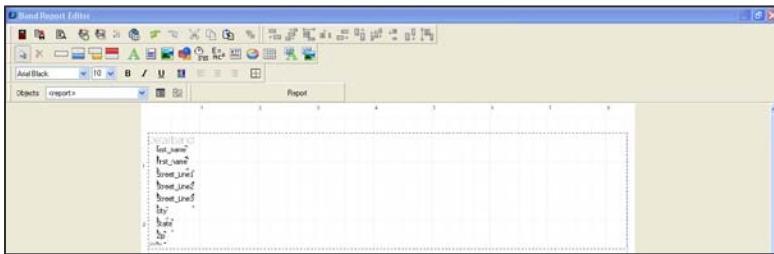


Figure 104 – The Label Format shown within the Band Report Editor

You will need to rearrange the fields to appear as follows on the label:

first name last name

Street 1

Street 2

Street 3

City, State Zip

By selecting a field and clicking and dragging, the field can be moved. Using the alignment tools, multiple fields can be selected and properly aligned.

For example, to make sure the all the fields are aligned on the same left margin, select the fields in question and press the Left Alignment icon.

Similarly, to make sure items are aligned across the bottom, use the Bottom Alignment tool. Position the fields as follows:

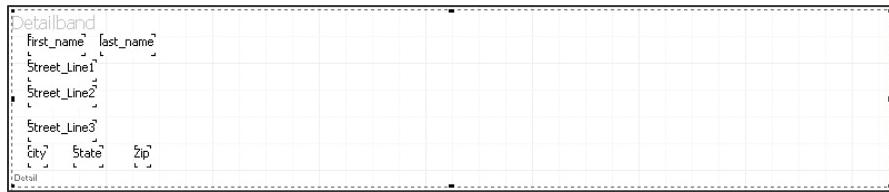


Figure 105 – Rearranging and aligning fields

To preview the layout, click on the Preview button. Make sure to run with a good sample to ensure you test different possibilities. Any problems are quickly taken care of by using Rich Text Fields in conjunction with the Expression Builder. Return to the Report Editor to first take care of the formatting for all fields.

Next, select the existing fields, delete them and replace them with Expression Fields. Expressions will be used to:

- Add fields that were removed
- Concatenate the first and last name
- Concatenate City, State, and Zip

Concatenating is done using the + sign. When joining fields with the plus sign, all leading and trailing blanks will be removed. This means that you need to add a space between the first and last name.

The new fields will be created using Rich Text Fields. Therefore click the "Add a Rich Text Field" icon within the Band Report Editor Toolbar then click anywhere within the Detail Band. The Rich Text Editor will be displayed as shown below:

Use the Rich Text Field icon within the Band Report Editor toolbar



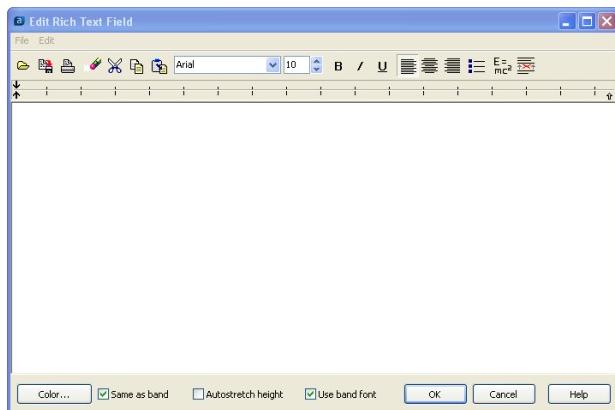


Figure 106 – The Rich Text Field Editor

The RTF Editor can be thought of a mini text editor and provides various text formatting features.

The fields to be added to the label will be identified by clicking the **E=mc²** icon (then selecting the desired database field within the expression builder) to obtain the desired field. Perform this repeatedly for each field to include within the label. The result is shown in the figure below.

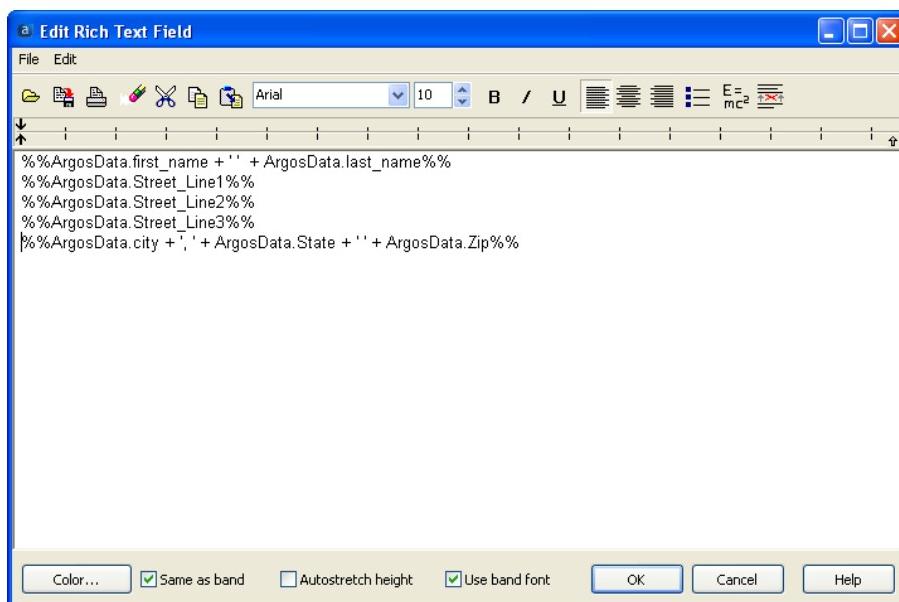


Figure 107 – Expressions Added to the Report Format

You can now enhance the appearance of the label by changing the font, font size and font characteristics (bold, italics, underline) by selecting the appropriate icon on the toolbar. Additional commonly used formatting features can be selected (left, center, right justify), adding bullets, and setting background color.

For this example the street addresses will be bolded and italicized, and will be changed to Times New Roman font.

SUPPRESS PRINTING OF EMPTY LINES

Fields Street_Line2 and Street_Line3 may not contain data, therefore if they are empty these lines should not be printed. To accommodate this condition, click the red X icon (Remove Line if Empty) on the upper right of the dialog box. This will cause empty lines to not be printed. Highlight the 2 fields then click the red X on the toolbar (see figure in the sidebar) which results in the following:

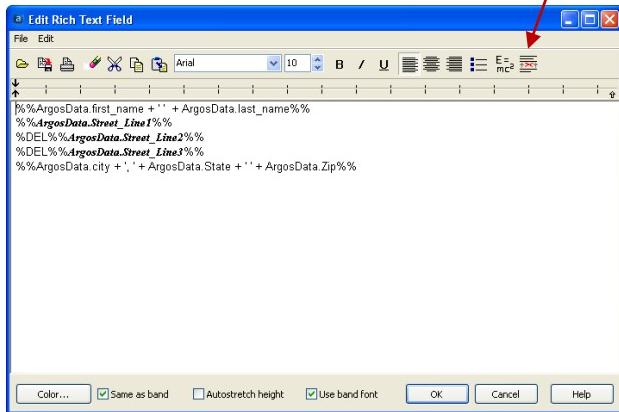


Figure 108 – Identifying lines not to print if empty

Street_Line2 and Street_Line3 now have DEL inserted, indicating that the line will be removed if it is empty.

Note the use of quotes to create blank spaces between fields when necessary.

Click OK, then the fields will be added to the selected band.

Drag the resulting field to the upper left of the Detail Band and resize it to accommodate the fields. You may also need to resize the Detail Band.

The final output is shown below. Note that for each label, there are no blank spaces between any of the lines.

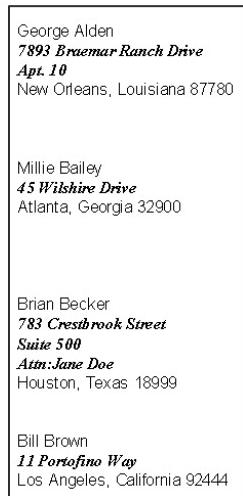


Figure 110 – The completed mailing label

Remove Line if Empty icon within the Rich Text Field Editor



RESIZING FIELDS

A field can be resized manually by selecting the field, then dragging the handles of the box that surrounds the field.

Or, you can avoid manual resizing by selecting the "Autosize width" or "Autostretch height" selections that appear on the "Edit" dialog for a field.

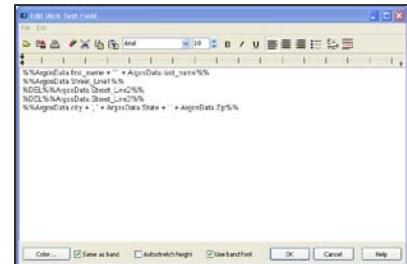


Figure 109 – Edit dialog box for Rich Text Field

Group Band on new page/reset counter

Example 5

Introduction

This example illustrates a situation where it is desired to print each group on a new page and to reset the page number to 1 for each group. The COUNTER and RESETEXPR functions will be utilized to accomplish this.

Example 1 showed how to reset the SUM and COUNT functions after printing (by selecting the "Reset after print" check box). For this example the PAGENUMBER function seemingly could be used to print the page number, however this function cannot be reset. Instead the COUNTER function is used to count pages since this function can be reset using the RESETEXPR function when required.

The Employees, Orders, Order_Details, and Products tables within the sample database are used within this example. The report will list all sales orders per employee as shown below:

Employee Sales			
Sale Date	Quantity	Product Name	
Mark	Washington	Sale Date	Quantity
1/1/2005	2	HP 250m 25" Diagonal Full HD	
1/1/2005	2	Norton Internet Security 2013	3/03/2007
1/1/2005	2	HP Pavilion Elite Desktop PC	3/21/2007
1/1/2005	2	HP Pavilion Elite Desktop PC	3/26/2007
1/1/2005	10	HP dv-7000ea Notebook	3/26/2007
4/1/2005	10	Canon Perma MP290 Photo A4	3/26/2007
4/1/2005	2	Epson NX415 All-in-one	5/7/2007
4/1/2005	10	HP dv7-3000ea Notebook	5/12/2007
5/4/2005	5	HP Scanjet 8000 Professional	5/12/2007
5/4/2005	3	Quicksilver Pro 2000	5/12/2007
5/24/2005	1	HP dv-4100ea Notebook	7/6/2007
6/12/2005	2	HP dv-4100ea Notebook	7/6/2007
6/12/2005	1	Gateway Desktop PC	8/25/2007
6/13/2005	1	Microsoft Project Standard 2013	3/21/2007
6/13/2005	1	Microsoft Vista 2007	3/21/2007
6/13/2005	1	Microsoft Office 2007	3/21/2007
7/15/2005	7	Lenovo S110-20472MU	3/24/2007
7/15/2005	7	Canon MP480 A3+Inkone	3/24/2007
8/1/2005	1	HP dv-7000ea Notebook	3/24/2007
9/11/2005	8	HP Pavilion Elite Desktop PC	3/24/2007
9/11/2005	16	LG W2757WPF 27" WideScreen	3/24/2007
10/1/2005	3	HP dv-4100ea Notebook	3/24/2007
11/1/2005	3	Gateway Desktop PC	3/21/2008
11/1/2005	8	HP 250m 25" Diagonal Full HD	3/21/2008
1/1/2006	2	Microsoft Office 2007	3/21/2008
2/1/2006	3	Epson G1-2500 Plus Network	5/6/2008
3/1/2006	10	Microsoft Office 2007	4/12/2008
4/6/2006	11	Compaq CQ500P Desktop PC	4/12/2008
4/6/2006	11	Canon Canoscan 8800F Scan	4/12/2008
4/6/2006	11	LG W2757WPF 27" WideScreen	3/18/2008
6/1/2006	5	Canon Canoscan 8800F Scan	7/18/2008
6/1/2006	4	Norton Internet Security 2013	8/4/2008
6/1/2006	5	Canon Perma MP290 Photo A4	8/4/2008
6/13/2006	1	HP 250m 25" Diagonal Full HD	4/12/2008
6/13/2006	1	Canon Canoscan 8800F Scan	10/13/2008
6/13/2006	1	HP P6210P Fan Win Desktop PI	10/12/2008
6/17/2006	2	LG W2757WPF 27" WideScreen	3/18/2009
7/31/2006	8	HP dv-4100ea 14.1" Notebook	1/16/2009
9/1/2006	12	MSI Wind U100	3/13/2009
9/1/2006	12	Canon Perma MP290 Photo A4	3/13/2009
9/1/2006	12	Compaq CQ500P Desktop PC	3/14/2009
9/26/2006	3	HP dv-4100ea 14.1" Notebook	3/20/2009
9/26/2006	6	Quicksilver Pro 2000	4/6/2009
10/25/2006	1	Epson PerfectScan V30	4/5/2009
11/28/2006	1	Asus W100B4 25.5" LCD Monitor	5/1/2009
12/2/2006	10	Inuit TurboTax Business Federal	7/1/2009
3/7/2007	8	Microsoft Vista 2007	8/27/2009
3/7/2007	1	HP Scanjet 8000 Professional	8/28/2009
3/23/2007	1	Samsung T201HD 25.5"	9/6/2009
			3/17/2009
			3/17/2009
			3/18/2009

Page 1

Page 2

Figure 111 – The printed report

Note that the page numbers increment for each employee, but will be reset to 1 for the next employee.

The following describes the format of the report.

- The Title Band contains the text string “Employee Sales”.
- The Column Header Band contains the Sale Date, Quantity, and Product Name Headers.
- The Group Header Band contains the employee last name and first name. It also contains the function RESETEXPR.
- The Detail Band contains the sale date, quantity, and product name.
- The Page Footer Band contains the COUNTER function which represents the page number.

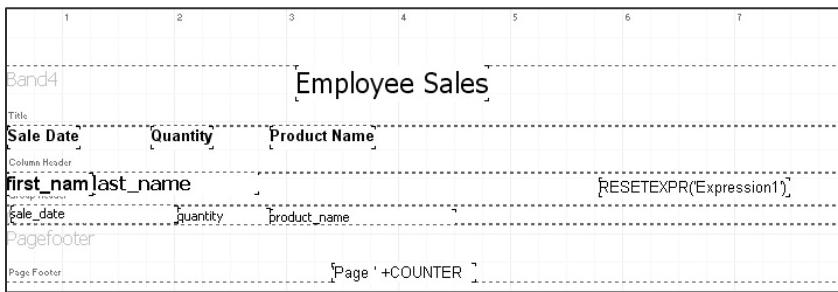


Figure 112 – The Report Design

Force Group Header on new page

To force the Group Header to print on a new page, the “Force new page (before)” check box was selected as shown in the figure below.

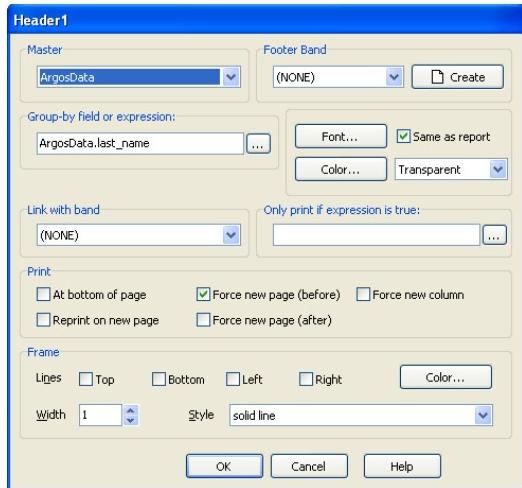


Figure 113 – Forcing a New Page for the Group Header Band

The COUNTER function was added to the Page Footer Band as shown in the above report design. Since the Page Footer Band is printed on each page, the counter will increment on each page as well.

Reset the COUNTER expression

The name of the COUNTER expression must be obtained such that it can be reset within the RESETEXPR function. To obtain the name, right-click on the [‘Page’ + COUNTER] expression then click ‘Options’ to obtain the Expression Name, which in this case is Expression1.

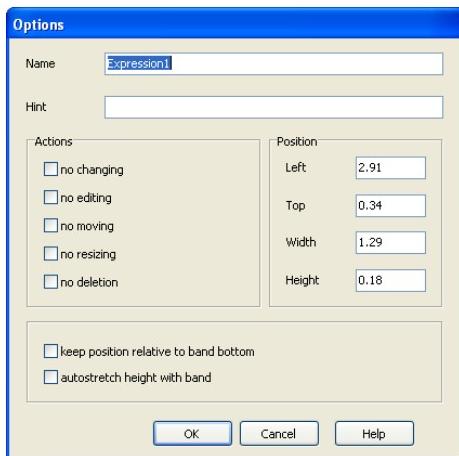


Figure 114 – Obtaining the name of the expression

To force the page counter to reset for each group, the RESETEXPR function must contain the expression to reset (the COUNTER expression) when this band (Group Header) is printed. Therefore ‘Expression1’ is entered as the parameter as shown in the figure below. The expression name must be enclosed within single quotes.

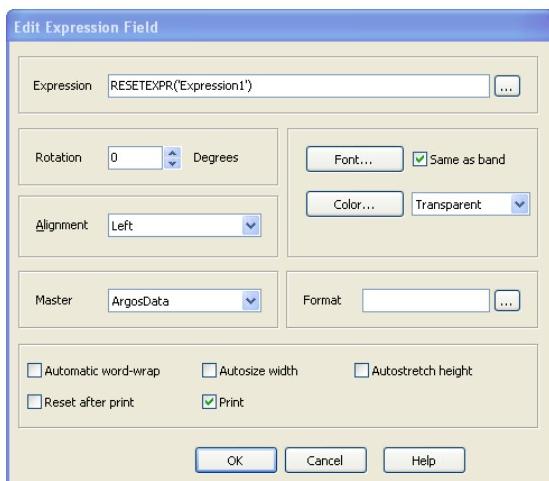


Figure 115 – Entering the expression name into the RESETEXPR function

The report design is now complete.

Conditional Printing

Example 6

Introduction

When an Argos DataBlock is initially designed, the developer creates a form that the Report Viewer uses to filter or limit the data that will be displayed. There are times when it would be useful to run the same report, but filter the data on information not available on the form.

Consider the following report which lists vendors to which Purchase Orders have been submitted:

Pending Purchase Orders				
United Cleaning Supplies				
PO Number	Invoice recd	Invoice paid	PO date	Total
1008	n	n	4/29/2005	\$300.00
1009	y	n	4/30/2005	\$75.00
1018	n	n	8/28/2005	\$48.00
1033	y	n	5/5/2006	\$470.00
1042	y	n	8/8/2006	\$168.00
1043	y	n	8/19/2006	\$160.00
1061	y	n	6/7/2007	\$421.00
1062	y	n	6/23/2007	\$450.00
1071	y	y	12/21/2007	\$402.00
1078	y	n	6/2/2008	\$5,535.00
Staples				
PO Number	Invoice recd	Invoice paid	PO date	Total
1000	n	n	1/21/2005	\$150.00
1003	y	y	4/11/2005	\$560.00
1011	n	n	6/1/2005	\$2,300.00
1019	n	n	10/8/2005	\$550.00
1030	y	n	2/14/2006	\$157.00
1031	y	y	2/22/2006	\$180.00

Figure 116 – The report showing all Purchase Orders

For each PO listed, the field “invoice recd” indicates whether an invoice has been received from the vendor, and the field “invoice paid” indicates whether the invoice has been paid. This example uses the Purchase_Orders, Purchase_Order_Items, and Vendors tables from the sample database.

The report is to be modified to list only vendors for which invoices have been received, but not yet paid. Since these fields do not exist within the input selection form, filtering must be done using the “Only print if expression is true” selection within the dialog box that is displayed when editing a band.

Conditional printing is done by editing the band that the filtering is to be applied to and entering the condition within the “Only print if expression is true” text box as shown below (for this example filtering is done on the Group Footer Band).

Bands used in this report

This report contains a Title Band, Group Header Band, Child Band, Detail Band, and Group Footer Band.

Each record in the Detail Band contains an item within a Purchase Order, but only the total of all items is of interest. The item sum is placed within the Group Footer Band and the Detail Band is not printed. This is why conditional printing is done for the Group Footer Band and not for the Detail Band.

To prohibit printing of the Detail Band, the band height is set to zero in the Options dialog box for the Detail Band.

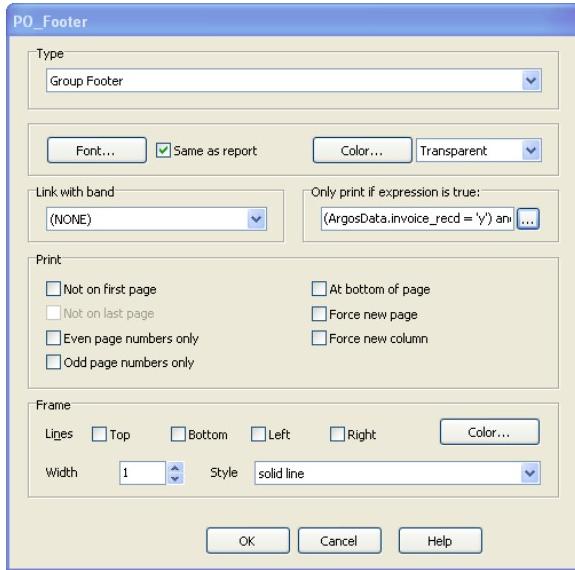
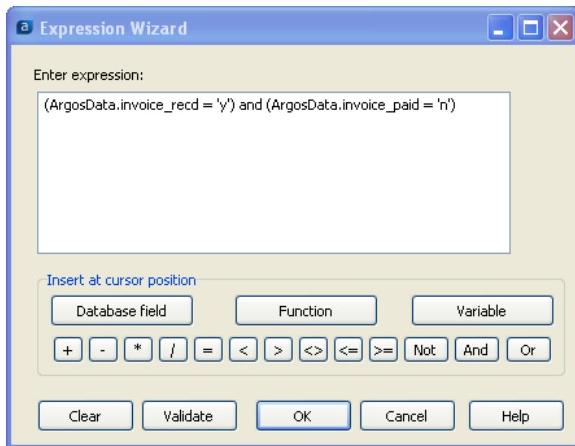


Figure 117 – Entering the criteria for conditional printing

For this band (PO_Footer) an expression was entered to limit the printed information. The complete expression is shown in the figure below which satisfies the condition for printing as described above.



Conditional Printing can be used for any band type.

For Detail Bands, conditional printing is applied to each record within the band, but for other bands it applies to printing or not printing the entire band.

Figure 118 – The complete expression used for conditional printing

After adding the expression, the report now appears in the figure below with Purchase Orders only printed if invoice received = 'y' and invoice paid = 'n'.

It is necessary to enclose each portion of the expression within parentheses.

Pending Purchase Orders				
United Cleaning Supplies				
PO Number	Invoice recd	Invoice paid	PO date	Total
1009	y	n	4/30/2005	\$375.00
1033	y	n	5/5/2006	\$518.00
1042	y	n	8/8/2006	\$168.00
1043	y	n	8/19/2006	\$160.00
1061	y	n	6/7/2007	\$421.00
1062	y	n	6/23/2007	\$450.00
1078	y	n	6/2/2008	\$5,937.00
Staples				
PO Number	Invoice recd	Invoice paid	PO date	Total
1030	y	n	2/14/2006	\$3,717.00
1039	y	n	6/29/2006	\$400.00
1049	y	n	12/24/2006	\$85.00

Figure 119 – The final report with conditional printing applied

Starting with a Blank Report Type

Example 7

Introduction

Previous examples demonstrated the creation of a Banded Report using the List and Mailing Labels report types. As you have seen, other report types are available within the Banded Report Wizard Report Type Library (List Report, Tabular, Blank, Form Style, and Mailing Labels).

If none of the Report Types meet your needs, you can create a custom report using the Blank Report Type.

Create a New Report

When creating a new report, and after selecting the Blank Report Type, you will be presented with the Band Report Editor as follows:

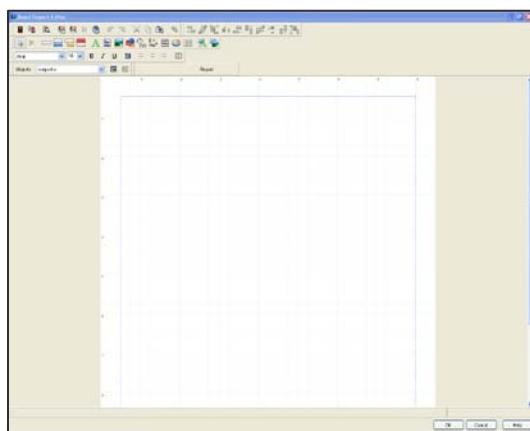


Figure 120 –Band Report Editor with Blank Report Type selected

None of the bands or database fields are shown as is done with the other Report Types. With the Blank Report Type you must create bands and band contents manually.

Adding Bands

To add bands, click the appropriate band (see band icons within the sidebar) then click anywhere within the Editor and the band will be created. Do this repeatedly for each band that you need to create.

To add database fields or text fields (to be used as headers or titles) click the corresponding icon (see sidebar) then click within the band that you wish the field to be inserted into. The field will then be added to the selected band. Use the same process to add other field types (expressions, images, etc.). Continue with this process until you have inserted all required bands and fields into your report.

Icons on Band Report Editor toolbar for creating bands



Create a new band



Create a new child band



Create a new sub detail band



Create a new band group

Adding a database field



Adding a text field



Using Sub-Detail Bands

Example 8

Introduction

The use of Sub-Detail Bands increases the Band Editor's functionality by allowing sub-reports that provide additional information for each record in the Detail Band.

A Sub-Detail Band prints one dataset while being linked to another dataset (called the Master). As each record is printed in the Master dataset, Argos will execute the dataset in the Sub-Detail Band and print the Sub-Detail Band once for each row returned. Any number of Sub-Detail Bands can be created and they follow the detail band.

In most cases, the Master dataset is the main Report Query (ArgosData). The dataset displayed in a Sub-Detail Band is a different one than the Master dataset, in fact it can even be from a different database (as long as both datasets have a common field that can be used to link them).

Note: the Sub-Detail Band always prints after the Detail Band and will loop through all records in its dataset before the Master dataset is incremented to the next record. For this reason, this technique is less efficient than other methods and should be used only when needs dictate.

You should use Sub-Detail Bands when:

- You need to loop through two or more datasets for each row in the Detail Band. Other methods only allow one dataset to be associated with each Detail Band.
- You need to loop through one or more datasets for each row in the Detail Band, but the data comes from a different database.

The Report Contents

In this example, Sub-Detail Bands will add additional information to an employee list. The additional information will include employee contact information such as phone number, email address, contact information, and dependent information. Each type of contact will appear in its own Sub-Detail Band such that four Sub-Detail Bands will be associated with the basic Employee information that appears in the Detail Band.

This example uses the Employee, Employee_Phone, Employee_Email, Employee_Emerg_Contact, and Employee_Dependents tables within the sample database.

Since four datasets are associated with and are printed immediately after the Detail Band, the use of Sub-Detail Bands is required (other methods only allow one dataset to be linked to a Detail Band).

The figure below shows the relationships of the tables within the sample database that are used in this example.

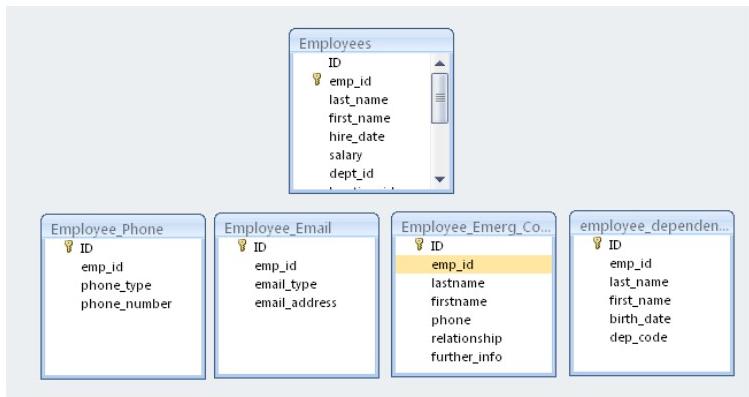


Figure 121 – Tables to be used to create datasets for Sub-Detail Bands

Note that none of the tables are joined since for this example these tables are considered separate datasets from the Main Report DataBlock. This also simulates the situation where the datasets can exist in an entirely different database from the database used within the DataBlock.

A report is to be created such that for each employee within the Employees table, associated records within the other datasets will be printed. The emp_id is used as the field to link the datasets together. Each dataset will exist within its own Sub-Detail Band. The report will appear as follows with each Sub-Detail Band identified:

Employee Contact Information				
Employee ID: 189		Bailey, Millie		
Telephone no.	mobile	(140) 776-8099		
Telephone no.	work	(140) 988-7730		1st Sub-Detail Band
Email Address	work	mbailey@work.com		
Email Address	home	millieb@gmail.com		2nd Sub-Detail Band
Emergency Contact	Bailey, Anthony	husband	(140) 375-2343	
Emergency Contact	Kaiser, Amanda	mother	(140) 262-9347	3rd Sub-Detail Band
Dependent	Bailey, Anthony	3/22/1963	spouse	4th Sub-Detail Band
Employee ID: 683		Hai, Paul		
Telephone no.	mobile	(140) 556-5580		
Telephone no.	work	(140) 816-6048		
Emergency Contact	Hai, Kim	wife	(140) 997-0361	
Emergency Contact	Hai, Jemimah	daughter	(140) 730-8904	
Employee ID: 118		Holmes, Lincoln		
Telephone no.	home	(140) 661-9661		
Telephone no.	mobile	(140) 238-5090		
Telephone no.	work	(140) 662-7885		
Email Address	work	lholmes@work.com		
Email Address	home	lincolnh@live.com		
Emergency Contact	Holmes, Annelise	wife	(140) 523-9630	
Emergency Contact	Holmes, Liam	son	(140) 451-9126	
Dependent	Holmes, Annelise	9/12/1982	spouse	
Dependent	Holmes, Liam	7/28/2006	child	

Figure 122 – The Banded Report to be created

For each employee, the associated Telephone Number records, Email Address records, Emergency Contact records, and Dependent Information records are printed. If a particular dataset is empty it will not print (Employee 683 has no email or dependent information). Each employee record can have any number of telephone, email, emergency contact, and dependent records associated with it.

The process for creating the Banded Report shown above follows:

Create the Title and Detail Bands

First a List Report Type is chosen, with a Title Band and Detail Bands created. The Detail Band contains the Employee ID, and employee last name/first name concatenated. Also the band has been given a purple background color.

Create the datasets

Four datasets will be created and named empl_phone, empl_email, Emergency, and Dependents.

To add a dataset, click the Show/hide the dataset icon on the Band Report Editor Toolbar.

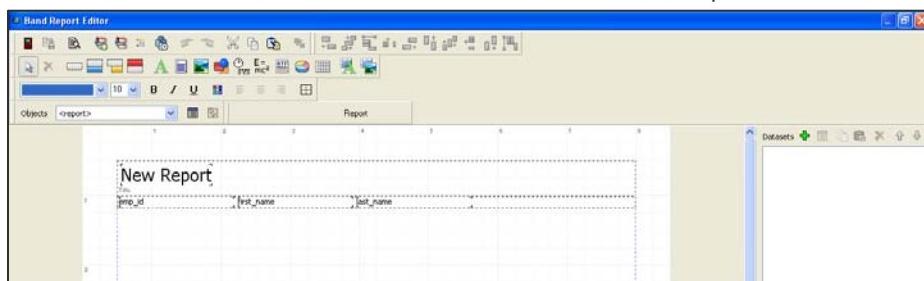


Figure 123 – Clicking the Green Plus Sign to add a dataset

Click the green plus sign on the right to bring up the following dialog box in which you identify the properties of the dataset.

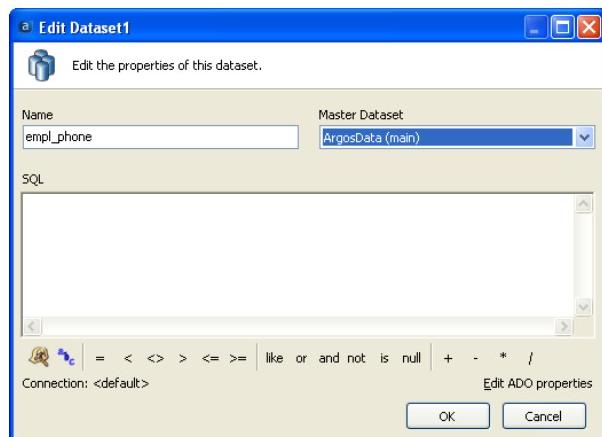


Figure 124 – Building the dataset using the query builder

Name the dataset empl_phone and set the Master Dataset to ArgosData(main). ArgosData(main) is the dataset containing the Main Report query.

Click the “Build Query” icon (the hat with the hammer) to bring up the Build Query dialog box. Click “Show Tables” then select the Employee_Phone table. Double-click on the phone_type and phone_number fields which will place them into the tables at the bottom of the window.

Show/Hide Dataset icon on Band Report Editor Toolbar



Build Query icon



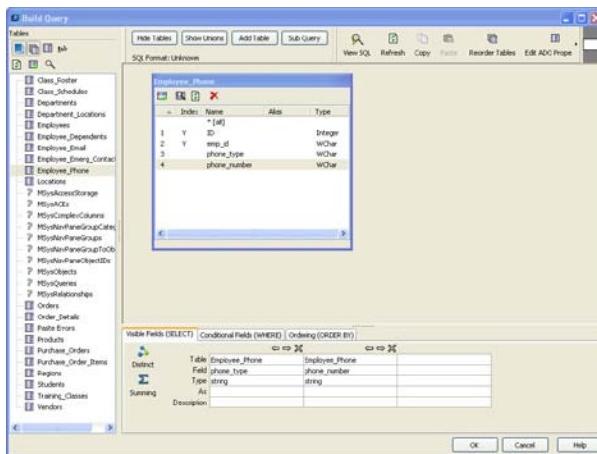


Figure 125 – Selecting fields from the Employee_Phone table

Next the WHERE clause is utilized to link the emp_id field in this table to the emp_id field within the Employees table in the Main DataBlock.

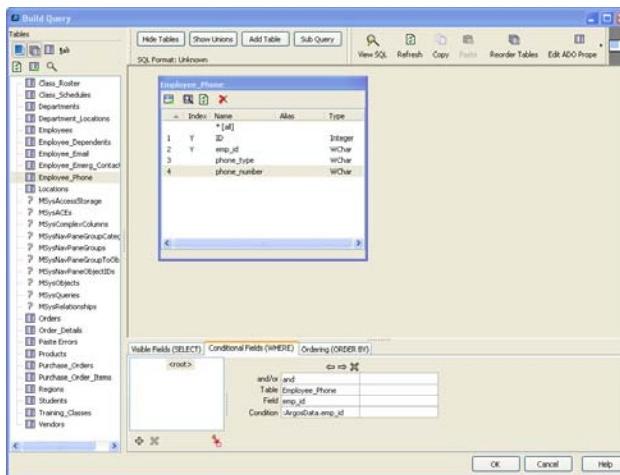


Figure 126 – Linking the Employees table to the Employee_Phone table

After creating the WHERE clause, the SQL for the empl_phone dataset appears as follows:

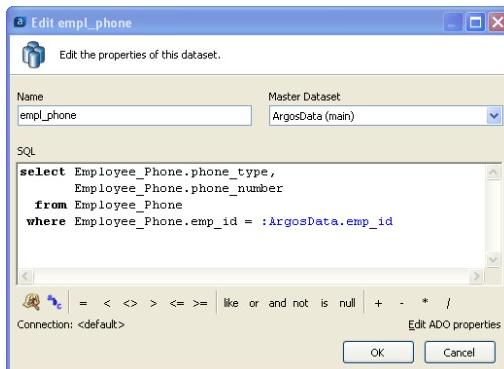


Figure 127 – The query for the empl_phone dataset

Click OK. The Band Report Editor now shows the empl_phone dataset in the upper right portion of the window.

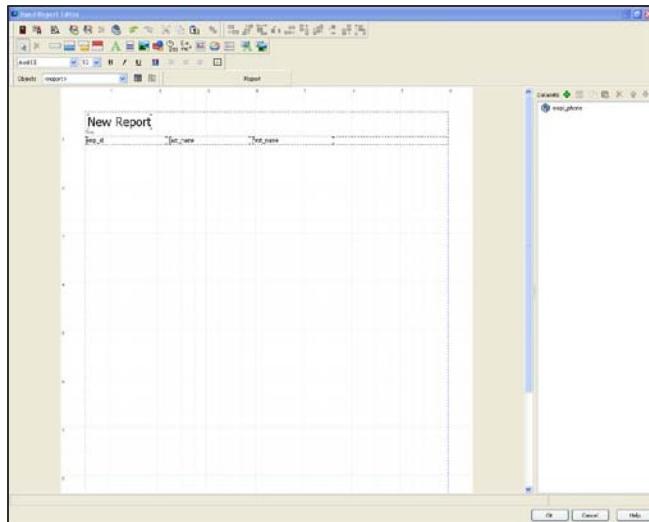


Figure 128 – The empl_phone query shown in the Band Report Editor

Click the green plus sign to create the other three datasets (empl_email, Emergency, and Dependents) using the Employee_Email, Employee_Emerg_Contact, and Employee_Dependents tables using the same method that was used to create the empl_phone dataset. When completed, the following datasets will then be displayed within the Band Report Editor.



Figure 129 – All datasets shown in the Band Report Editor

Create the Four Sub-Detail Bands

Now that all datasets have been created, the corresponding Sub-Detail bands can be created. To create the first band (which will contain the empl_phone dataset), click the "Create a new subdetail band" icon on the toolbar. Then click anywhere within the Band Report Editor. The following dialog box will be displayed:

Create a new Sub-Detail Band icon on the toolbar



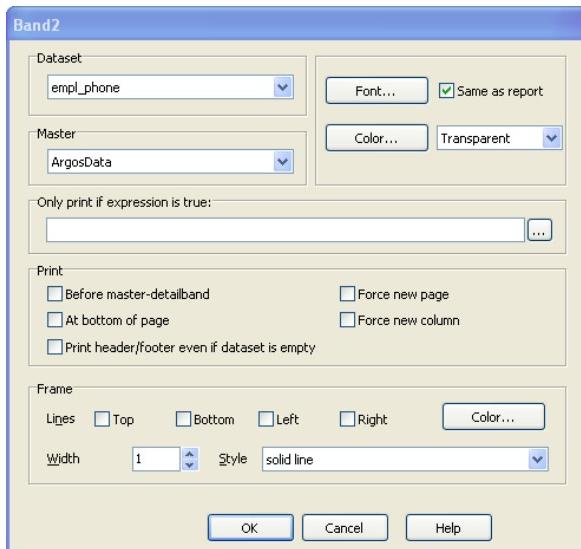


Figure 130 – Properties of the first Sub-Detail Band

Select empl_phone from the dataset drop-down menu since this is the dataset applied to this band. Also, uncheck the “Print header/footer even if dataset is empty” box. Unchecking the box will prevent the band from printing if there is no data within the dataset. Click OK to continue.

Move fields into the Sub-Detail Bands

Before adding fields into the Band, if you desire to change the name of the band to something more meaningful, right-click within the band then select “Options”. Enter the desired name of the band.

The next step is to add fields and appropriate titles to the band. For the first band (empl_phone), click the “Add a database text field” icon from the toolbar then click anywhere within the band. The dialog box below will appear.

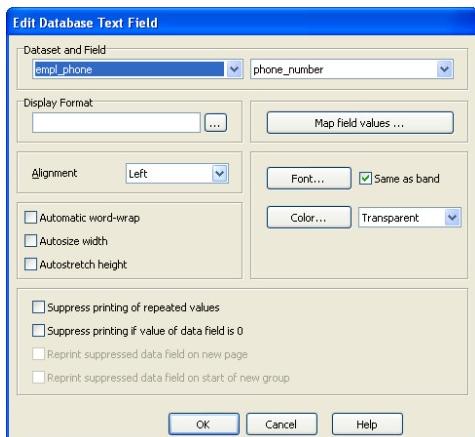


Figure 131 – Adding database fields to the Sub-Detail Band

Adding a database field icon on the toolbar



Adding a text field icon on the toolbar



Select empl_phone as the dataset and the phone_number field then click OK. The phone_number field will be added to the band. Repeat the procedure to add the phone_type to the same band.

Repeat this procedure (adding fields) for each band. Add text fields to each band by selecting the “Adding a text field”. After adding all fields and titles to each band, the report format appears as follows:

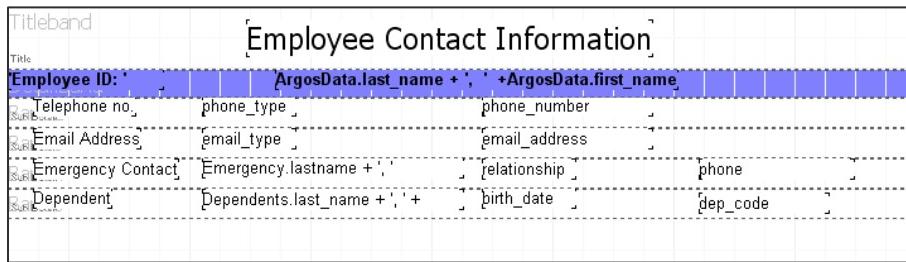


Figure 132 – The final report design with all four Sub_Detail bands

Note the four Sub-Detail bands beneath the detail band. Each Sub-Detail band contains labels as well as fields from the empl_phone, empl_email, Emergency, and Dependents datasets.

Obtaining tables from an external database

In this example, datasets were created from tables existing within the same database. However, as mentioned earlier, tables from external databases can be utilized to create datasets.

To access tables from an external database, after clicking the green plus sign to create a dataset, the following dialog box appears:

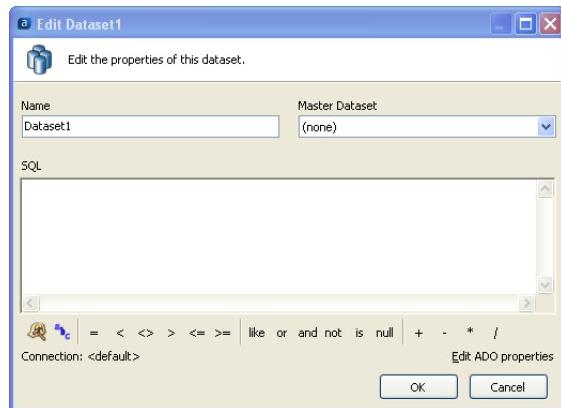


Figure 133 – Dataset Properties – selecting another connection

Click “Connection:<default>” in the lower left of the dialog box to bring up the list of available connections created by your MAPS Administrator.



Figure 134 – Choosing another connection

After choosing the appropriate connection you can then select the appropriate tables from the external database, build the dataset query, and add fields to Sub-Detail Bands using the same methods described in this example.

Adding Parameter Input to the Report

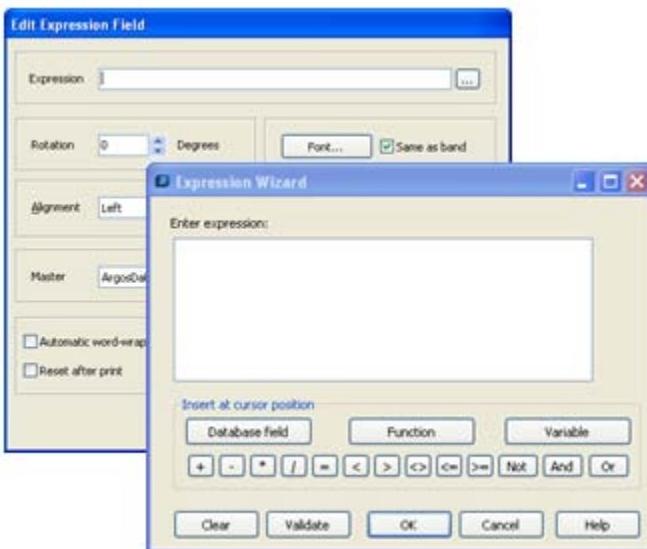
Example 9

Banded Reports obtain query results from the DataBlock to report on the contents of a database. Other information not contained within the Report Query can be obtained and inserted into your report, including items such as:

- Date and time the report was generated
- Information about the database connection such as DataSource name, Driver file name and version, SQL format, etc.
- DataBlock name and path
- Report name and path
- Username and user type
- **The search parameters chosen from the DataBlock form.**

To obtain this information you need to add an expression field into the desired band using methods you are now familiar with. This is done by clicking the “Add an expression field” icon on the Band Report Editor toolbar, then clicking within the band where you want the field to be placed.

Adding the selections made within the DataBlock form to the report provides very useful background information used to create the report



The “Add an Expression Field” icon within the Band Report Editor toolbar

$$E = mc^2$$

Figure 135 – Adding an expression

The Expression dialog boxes above are displayed. From the Expression Wizard, click the “Variable” button which displays the list of variables that can be inserted into the band. Variables preceded with a \$ are system variables. Variables without the \$ are items selected from the DataBlock form used to create the report.

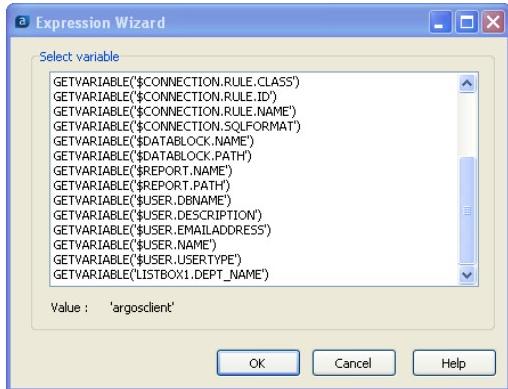


Figure 136 – The list of system variables

For this example, the DataBlock name as well as the departments selected within the DataBlock form will be placed into Summary Band that was created in Example 1.

The DataBlock form for Example 1 consists of a list of department names which is contained in the variable LISTBOX1.DEPT_NAME shown at the bottom of the list in the above figure.

To add the selected department names into the Summary Band, click the LISTBOX1.DEPT_NAME variable and it will be placed within the band. When adding the expression to the band, select the “Autostretch height” box which will increase the height of the band, if necessary, to accommodate the list of selections from the form.

To add the DataBlock name to the Summary Band, repeat the above process to add an expression field and select the variable GETVARIABLE(''\$DATABLOCK.NAME').

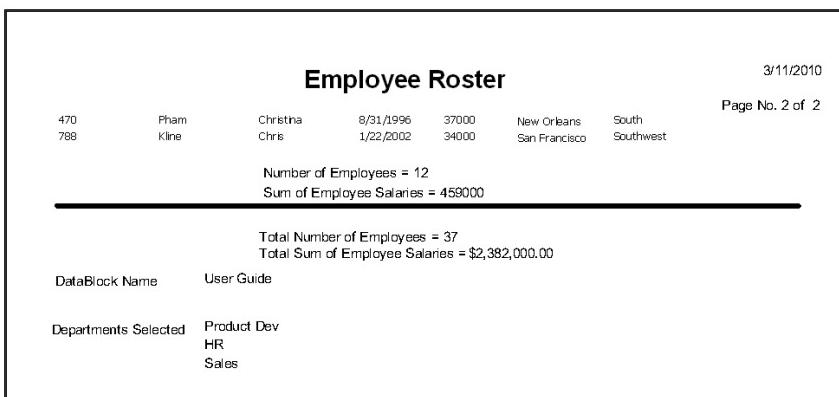


Figure 137 – The Summary Band with the new fields

The DataBlock Name (User Guide) as well as the Departments selected within the DataBlock form (Product Dev, HR, Sales) now appear within the Summary Band. Labels (“DataBlock Name” and “Departments Selected”) were added separately to describe the newly added information.

Link With Band

Example 10

Lonely Group Header Band

Occasionally, depending on the number and size of bands in your report, you may get pages that have Group Header Bands at the end of a page. Its corresponding Detail Bands are then printed on the following pages as illustrated in the figure below.

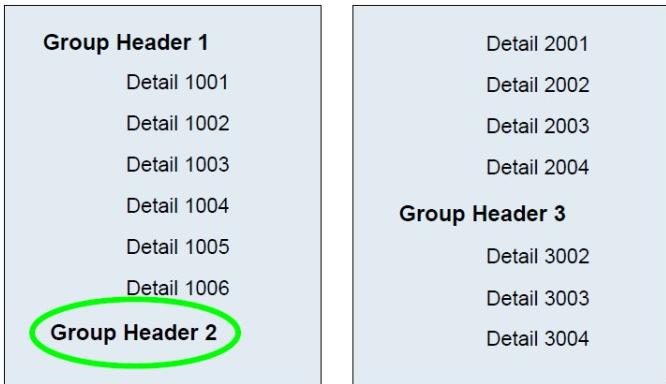


Figure 138 – Lonely Group Header

Lonely Group Footer Band

In other cases, a page will have just enough room to print the last Detail Band. The Group Footer Band will be printed on the following page by itself as seen in the figure below.



Figure 139 – Lonely Group Footer

These situations are not desired and to overcome them, use the "Link with Band" feature.

This feature is available for all band types. Report Writers select which band to link the current band to so the above situations will not occur.

The method to use for this option is to set the link inside the band that comes first. For example, to fix the lonely group header, you would set the Link with band option in the Group Header Band since the Detail Band comes after the Group Header Band.

In the case of the lonely group footer, you would set the Link with band option in the detail band since the Group Footer Band comes after the Detail Band.

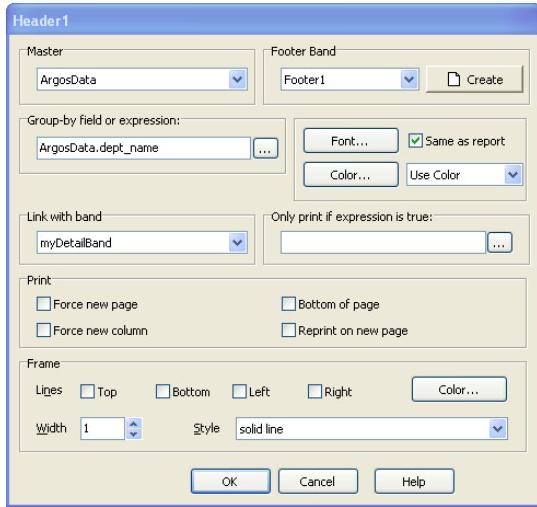


Figure 140 – Group Header Linked to Detail Band

The data entered as shown in the figure above would produce the report in the figure below and corrects the lonely group header. In this case, the Header 1 band is linked to the detail band "myDetailBand". Notice how there is still room for more data on page 1, yet the second group header is printed on the next page.

Group Header 1	Group Header 2	Group Header 3
Detail 1001	Detail 2001	
Detail 1002	Detail 2002	
Detail 1003	Detail 2003	
Detail 1004	Detail 2004	
Detail 1005		
Detail 1006		

Figure 141 – The Lonely Group Header corrected

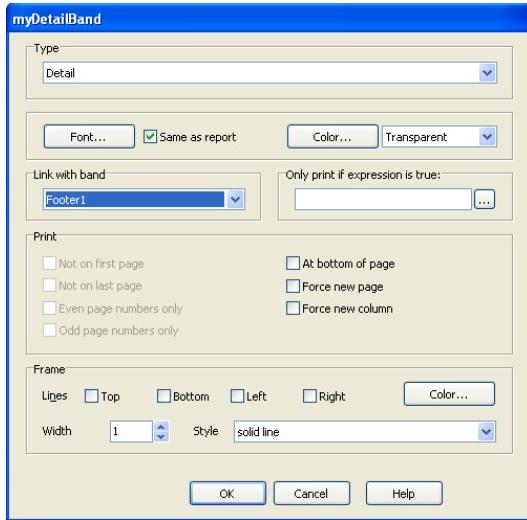


Figure 142 – Detail Band Linked to Group Footer

The data entered in the figure above would produce the report in the figure below and corrects the lonely group footer. In this case, the Detail Band was configured to link with the Footer 1 band. Notice how there is still room for more data on page 1, yet the last detail record for group 1 is not printed until page 2 with its group footer.



Figure 143 – The Lonely Group Footer corrected

Creating a Chart

Example 11

This example will demonstrate how to add a simple chart to a Banded Report as shown in the figure below.

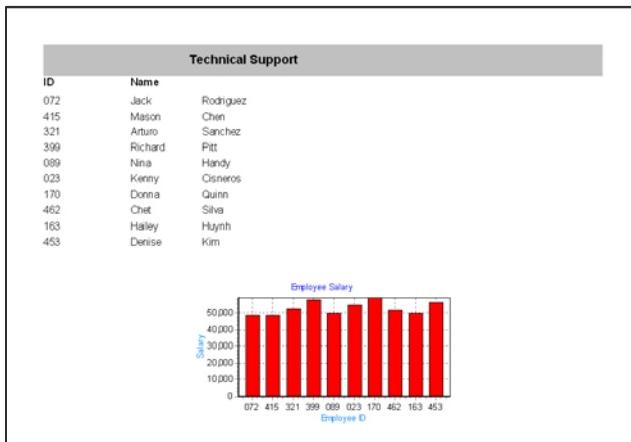


Figure 144 – Banded Report with a chart

The report contains a list of employees (ID and name) within a department and a chart showing the salary of each employee.

The Employees Table within the sample database is the only table used in this example. A DataBlock form was created in which the user enters the department name.

Four bands are utilized as follows:

- Title band containing the department name (grey background color).
- Column Header band containing the "ID" and "Name" titles.
- Detail band containing the list of employees.
- Summary band containing the chart.

The steps to create the report follow.

Create the Title, Column Header, and Detail Bands

Create a new Banded Report, launch the Banded Report Wizard, then select a "Blank Report" Type.

Populate the Title, Column Header, and Detail Bands with the appropriate fields using methods described in previous examples. As a reminder, note that the Title Band contains the value selected in the DataBlock form using the procedure described in a previous example.

The remainder of this example is devoted to creating the chart that will be placed within the Summary Band.

Charting in Argos

The chart to be created in this example is very simple and was included primarily to show how to add a chart to a Banded Report.

Chart icon on Band Report Editor toolbar



Centering the text in the title band

To quickly center the text within the title bar horizontally or vertically, click on the text, then click the "Align the selected control to the horizontal center of its parent" button, or click "Align the selected control to the vertical center of its parent" button.



Align to horizontal center of its parent



Align to vertical center of its parent



Figure 145 – Report Design with Title, Column Header, and Detail Bands

Add a Summary Band

A chart can be added to any type of band. For this example it is added to the Summary Band. Add the band using methods you are now accustomed to.

Add a Chart Object

Click on the Chart icon on the toolbar, then click anywhere within the Summary Band to add the chart object. The following dialog box will appear:

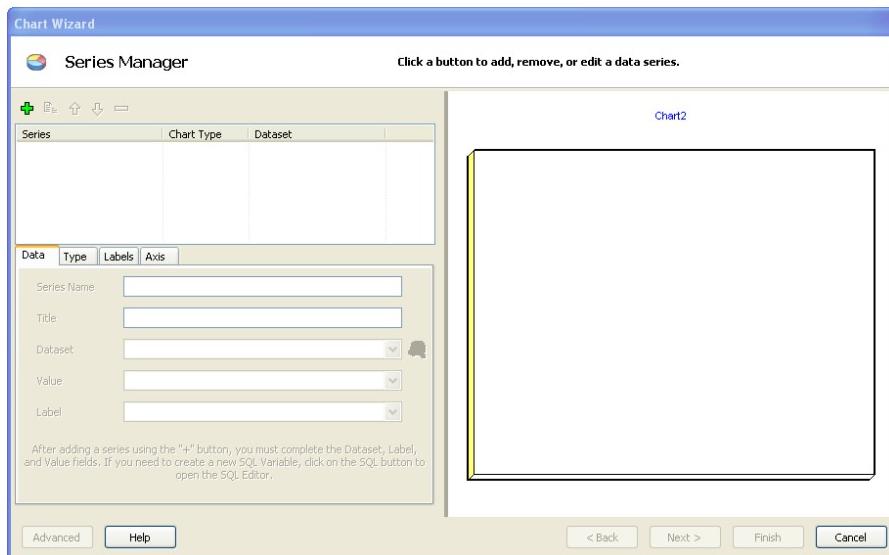


Figure 146 – The Chart Wizard

Follow the Chart Wizard

This dialog box is the Chart Wizard that will guide you through the process of creating a chart. All possible options will not be explained in this example, but only the options that apply to this example will be shown.

Click the Green Plus sign to add a series. Although more than one series of data can be displayed on a chart, for this example only one series is required.

Select “ArgosData” within the Dataset field.

Select “salary” for the Value field.

Select “emp_id” for the Label field.

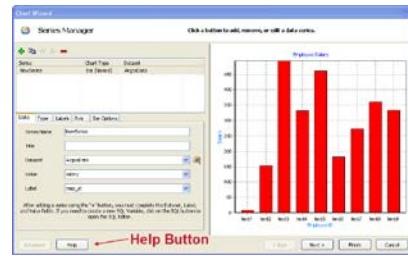


Figure 147 – Help Button within Chart Wizard

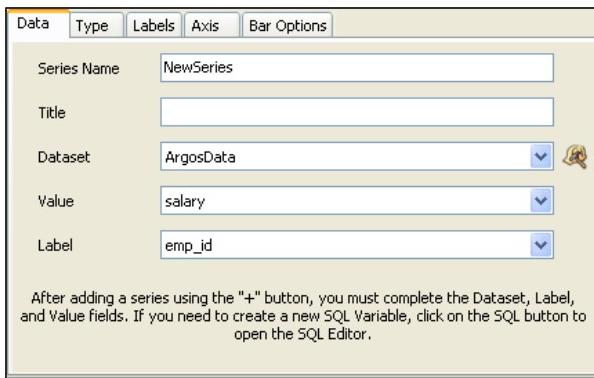


Figure 149 – Adding information into the Data Tab

Click the “Type” tab where you can select various types of charts (Bar, Pie, Line, etc.). This example creates a bar chart which is the default selection, so no change is required.

Click on the “Labels” tab to display various label options. Uncheck the “Visible Label” box. The image on the right of the window will show the effect of checking/unchecking this box.

Click the “Bar Option” tab and uncheck the “3D” and “Color Each” boxes. Again, the image on the right of the window will show the effect of checking/unchecking these boxes. While on this tab, you can change the color of the bars by clicking the Color button.

Click Next to continue. The Chart Theme and Panel dialog box will appear. For this example, default values will be used, therefore click Next to continue.

The Chart Legend and Titles dialog box will appear.

Highlight “Legend Style and Title”, then uncheck the “Legend Visible” check box since the legend is not to be included.

Click “Main Title” then enter “Employee Salary” into the “Enter Title Here” box.

Click “Left Axis Title” then enter “Salary” for into the “Enter Title Here” box.

Click “Bottom Axis Title” then enter “Employee ID” into the “Enter Title Here” box.

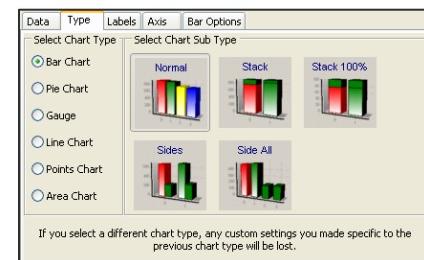


Figure 148 – Bar Chart Sub Types

Note the various sub types available when choosing a Bar Chart.

Select Object	Title
Legend Style and Title	
Main Title	Employee Salary
Sub Title	
Footer	
Sub Footer	
Left Axis Title	Salary
Bottom Axis Title	Employee ID

Figure 150 – Adding Legend and Titles information

Click Finish to continue.

This completes the Wizard, and you will be brought back to the Band Report Editor.

Increase the height of the Summary Band to make room for the chart. Position the chart to the desired location.

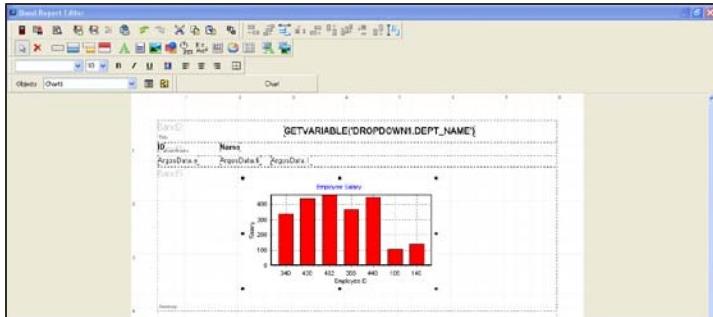


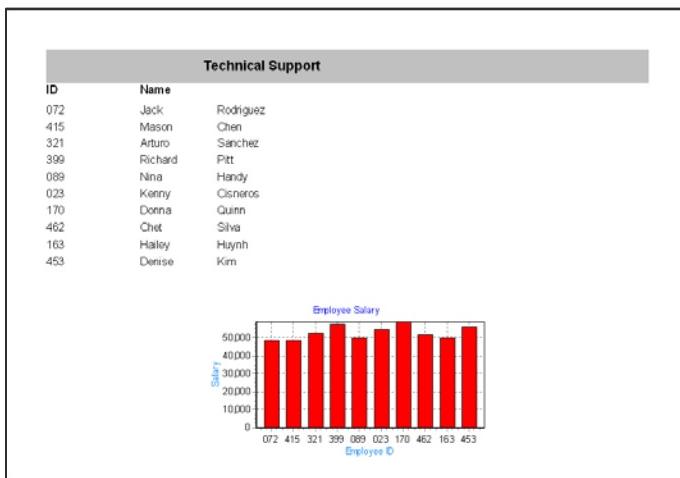
Figure 151 – The completed report design

Run the report and select “Technical Support” for the Department Name. The parameter entered is shown below.

Department Name

Figure 152 – The query parameter

The resulting Banded Report with included chart is shown below.



See the Argos DataBlock Designers Guide (or Help) for a more complete description of Charting within Argos.

Figure 153 – The final report

Creating an Extract Report

Example 12

Introduction

An Extract Report is designed to create output files that meet pre-defined specifications. This feature is especially useful for creating delimited output that is more complex than a simple comma-separated file (CSV), for creating a fixed-width file in which each field is precisely positioned on a given line, or for creating an XML file. This could include files that you might upload to a government agency, clearinghouse, or service bureau.

Extract Reports are somewhat similar in design to a Banded Report. Similar to bands within a Banded Report, an Extract Report has sections, each of which can include different data fields. However, in an Extract Report you can loop through as many datasets as your report requires, and you can precisely control the position of your data in the output file.

Unlike a Banded Report, there is no concept of a "page" in an Extract Report. Data is simply streamed into an output file.

Report Formats

There are three report formats available:

Fixed - The width of each field is a user defined fixed value.

Delimited - The width of each field is variable with each field separated by a user defined delimiter.

XML - Report output is in XML format.

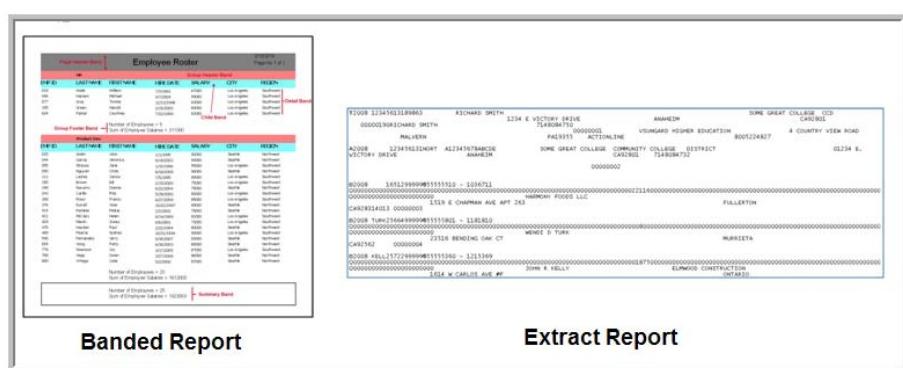


Figure 154 – Comparison of Extract and Banded Reports

Sections in the Extract Report

The output file from an Extract report is organized by sections. You can add as many sections as you like to the Extract Report design. The definition of each type of section is as follows:

Title - Always appears as the first section in the report. This section contains data obtained only from the **current** record of each dataset referenced by the section. Looping through the datasets to obtain data is not done for this section as only data from the current record of each dataset is obtained.

Detail - Used to loop through an associated dataset. Within this section, Argos will create one detail row for each record in the associated dataset. This is useful if you wish to create a list of vendors, for example.

You can create multiple Detail sections in an output file. You might have one simply follow another. For example, if you wanted a list of all regular checks, followed by a list of all voided checks, you would simply add a pair of Detail sections. Each Detail section is associated with its own dataset, and can be formatted however you require.

Another option is to make a Detail section a “parent” of a subsequent Detail section (referred to as the Sub-Detail section). For each record that is output in the parent Detail section, the Sub-Detail section will be executed and added to the file as well. In the vendor example from above, the vendor would be in the parent Detail section, with a list of invoices in the Sub-Detail section. You can have multiple “levels” of Sub-Detail sections. Like a Banded Report, using Sub-Detail sections in an Extract Report can significantly impact the amount of time needed to generate the report. Use this technique only if Headers and Footers (below) do not meet your requirements.

Header – A Header section is associated with a Detail section, and is used to group the Detail data by a selected field or expression. The Header section will print once anytime the value of the group-by expression changes. For example, if your data is organized by year, and you need a header row at the beginning of each year, you should add a Header section, grouped by year. Make sure your dataset is sorted by the fields you wish to group by. As an option, you can exclude the group-by field which will cause Argos to print a single group Header (and Footer if it exists).

Child – These sections will print directly after their parent section. They are not associated with a dataset, so any fields you add to a Child section will reflect whatever the current value of that dataset is. For example, in the vendor example, if you wanted to output each vendor, with the name on the first line, and the mailing address on the line just below, a Child section could be used.

Footer – A Footer section is always associated with a Header section. Each Header prints before a Detail section, and its associated Footer will print just after the last record of the Detail section.

Summary - Always appears as the last section in the report. This section contains data obtained only from the **current** record of each dataset referenced by the section. Looping through the datasets to obtain data is not done for this section as only data from the current record of each dataset is obtained. A child section can be placed beneath a Summary section if necessary.

The Report Specification

This example will create an Extract Report loosely based on the Internal Revenue Service Publication 1120, Specifications for Filing Forms 1098, 1099, 3921, 3922, 5498, 8935, and W-2G. The intent of the example is not to create a file adhering to the entire specification, but to illustrate how the Extract Report could be used to create such a report. Therefore, not all aspects of the specification are included in this example.

The following tables describe the required Record Types within the IRS specification that will be created in this example.

Record Type	Usage
T	The first record in the file. Identifies the institution sending the file to the IRS.
A	Identifies the payer (the institution making payments to vendor). In this example, the payer is also the institution transmitting the file (same institution as in T record).
B	Identifies the payee (the vendor that received payments) and the payment amounts to each payee. One record for each payee.
C	Sum of B records (payment amounts) for the payees.
F	End of Transmission records. Contains total number of payers and payees.

The tables below show the fields that are used in each of the Record Types. The position and number of fields does not match the 1099 specification exactly to keep the example concise.

Each record in the report must contain a Record Sequence Number, beginning with "1" for the first record, and incremented by one for each record in the report.

T Record

Field Name	Width	Value	Fill character	Alignment
Record Type	1	T		
Payment Year	4	2009		
Record Sequence Number	10	Obtained from DataBlock	zero	right
Transmitter TIN (taxpayer ID)	9	Obtained from DataBlock		
Transmitter Name	20	Obtained from DataBlock	blanks	left
Number of Payees (B records)	10	Obtained from DataBlock	zero	right

A Record

Field Name	Width	Value	Fill character	Alignment
Record Type	1	A		
Payment Year	4	2009		
Record Sequence Number	10	Obtained from DataBlock	zero	right
Payers TIN	9	Obtained from DataBlock		
Payers Name	20	Obtained from DataBlock	blank	left
Type of Return	1	A (represents 1099-MISC form)		

B Record

Field Name	Width	Value	Fill character	Alignment
Record Type	1	B		
Payment Year	4	2009		
Record Sequence Number	10	Obtained from DataBlock	zero	right
Payee TIN	9	Obtained from DataBlock		
Payee Name	20	Obtained from DataBlock	blank	left
Total payments to payee	12	Obtained from DataBlock – 12 numeric characters. No decimal points, commas or dollar signs. Rightmost 2 characters for cents	zero	right

C Record

Field Name	Width	Value	Fill character	Alignment
Record Type	1	C		
Payment Year	4	2009		
Record Sequence Number	10	Obtained from DataBlock	zero	right
Number of payees (B records)	10	Obtained from DataBlock	zero	right
Total amounts paid by payer	18	Obtained from DataBlock	zero	right

F Record

Field Name	Width	Value	Fill character	Alignment
Record Type	1	F		
Payment Year	4	2009		
Record Sequence Number	10	Obtained from DataBlock	zero	right
Number of A records	10	Obtained from DataBlock	zero	right
unused	21		blank	
unused	19		blank	
Number of B records	10	Obtained from DataBlock	zero	right

Again, the above is a small subset of the required fields, but demonstrates the types of fields, fill characters, and alignment required by the IRS specification. The field positions may not match the IRS specification in order to keep the report width such that it is easily viewable.

Report Creation Steps

The following steps are required to create the Extract Report for the above specifications and will be demonstrated in this example.

- Create the new report in the Argos Explorer and give it a name.
- Launch the Extract Report Editor, where the report design takes place.
- Configure the Report.
- Add datasets to be used in the report.
- Add the section and fields for the T Record Type (Title section).
- Add the section and fields for the A Record Type (Detail section).
- Add the section and fields for the B Record Type (Detail section).
- Add the section and fields for the C Record Type. This involves creating Header and Footer sections around the B Record Type detail section.
- Add the section and fields for the F Record Type.
- Execute the report.

Create a New Report

As with other report types, go to the Argos Explorer, right-click on the DataBlock to be used for this report, then select "New Report". Give the report a Name and Description, click "Extract text report", then the "Create" button.

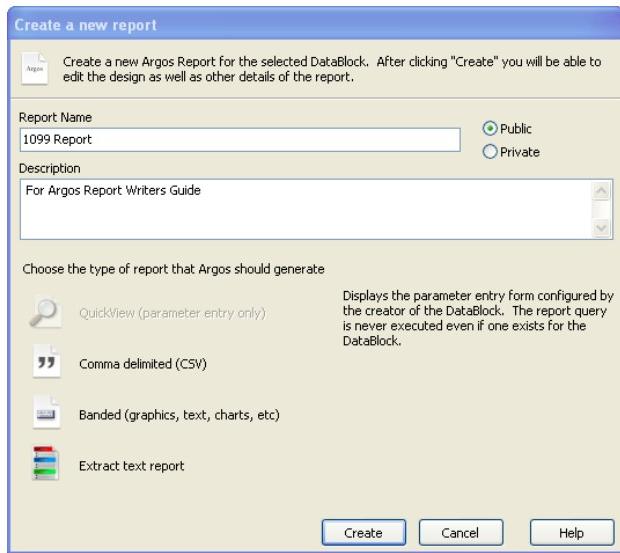


Figure 155 –Create a new report dialog box

You can add additional Filters or Sort the data that comes from the Report Query by clicking the Filters and Sort tabs shown in the figure below. Refer to the [Filters and Sort](#) section in this guide for an explanation of this feature is used when creating CSV reports. This feature is also available to Banded and Extract Reports.

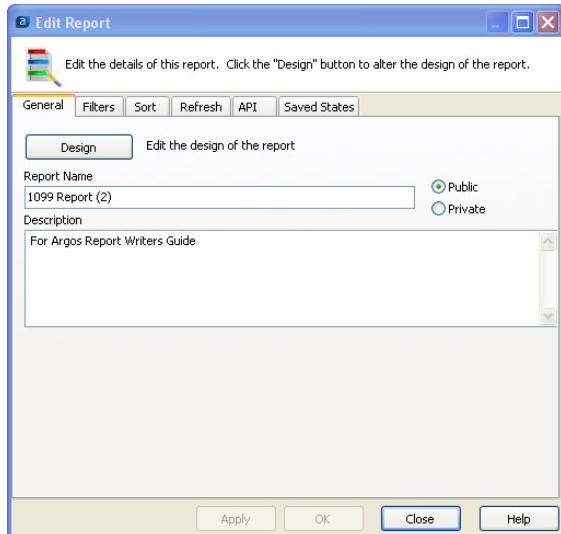


Figure 157 – Adding the Report Name and Description

Click the "Design" button to begin the creation of the report.

The Extract Report Editor will then be displayed which is used to design the report.

The DataBlock used in this example

The Sample Database used for other examples in this guide will also be used here and will create 1099 forms for vendors that supplied services to the Company existing in the Sample Database. The Purchase_Orders, Vendors, and Purchase_Order_Items tables contain the vendor information. The "Company" table contains information about the company submitting the file to the IRS.

A DataBlock was developed to sum the Purchase Order records for each vendor that received a 1099 form. Vendors with the "reqd1099" field set to 'Y' will receive 1099s. This will be one of the Datasets used in the Extract Report. The Company table, which is not joined with any other table, will be one of the other Datasets used in the Extract Report.

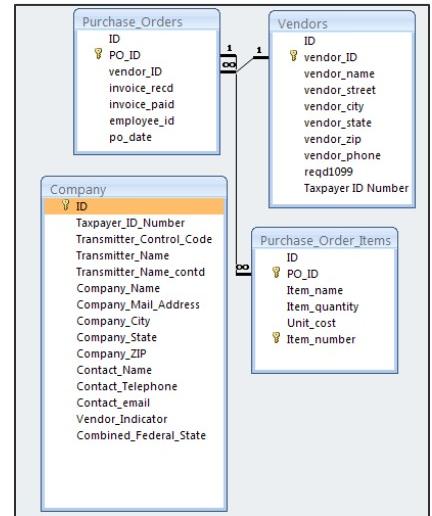


Figure 156 –The database tables used in this example

The Extract Report Editor

The Extract Report Editor is used to design the Extract Report. There are three areas within the editor shown in the figure below.

- **Report Structure**, where sections used in the report are created. Properties that apply to all sections and fields are also identified in this area.
- **Configure Report**, where properties of individual sections and fields are specified. Fields are also added in this area.
- **Datasets**, where datasets used in the report are created and displayed.

Title Bar: Note the Title Bar of the Editor contains the report name followed by the report type. The figure below shows the report name of "1099_Report", and that it is a Fixed Width Report. For Delimited Report Types, "Delimited" is displayed, and for XML Report Types "XML" is displayed. The asterisk next to the report type indicates that changes have been made but have not been saved.

Use of the various icons shown in the Report Editor below are demonstrated in this example. A description of all icons can be found in the In-Product Help.

Options often can be viewed by selecting an object and performing a right-click. For these objects, a menu of selections will be displayed after the right-click.

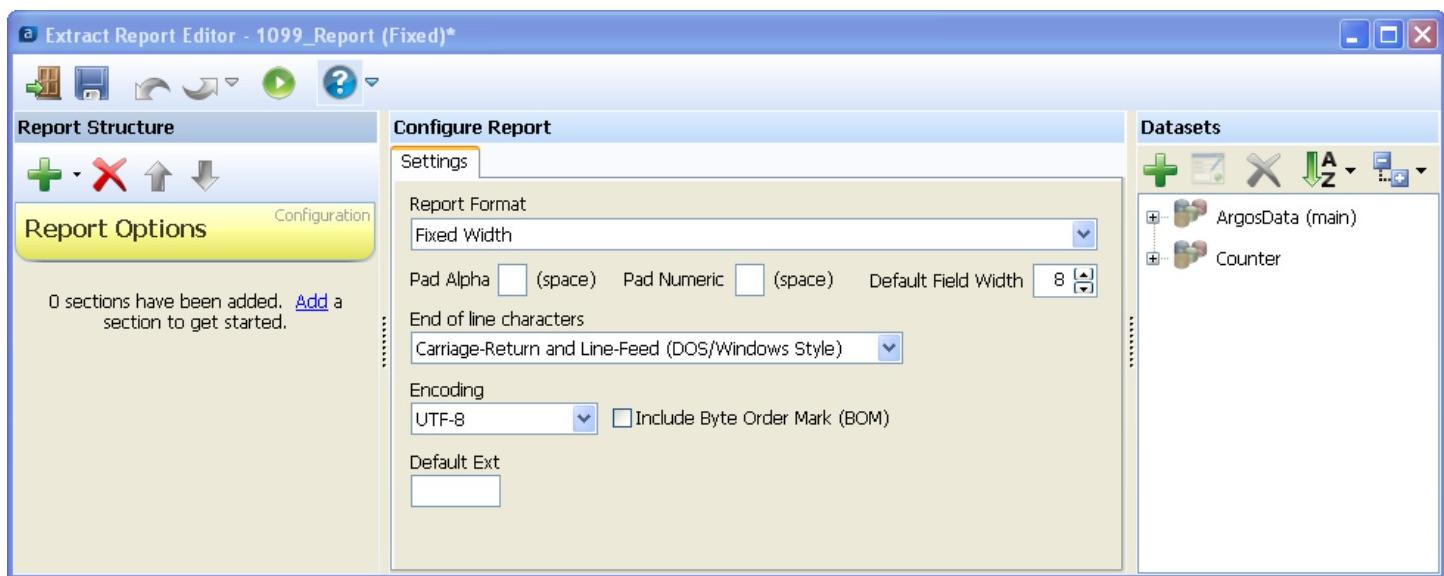


Figure 158 –The Extract Report Editor

Configure the Report

The first step is to configure the report by selecting options shown within the "Configure Report" area. Click "Report Options" to display the options under the Settings tab.

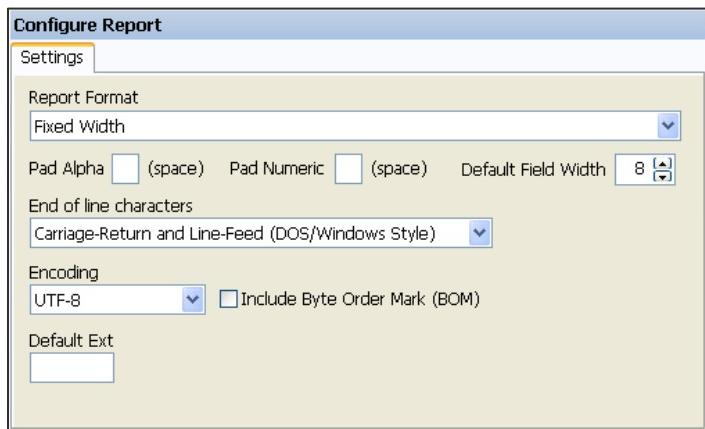


Figure 159 – Configure Report (Settings Tab)

The Report Format field allows you to select from Fixed Width, Delimited, and XML formatted reports. For this example, the Fixed Width Report Format is being used.

Options under the Settings tab apply to all sections within the report, but can be overridden when configuring individual sections. This will be illustrated later in this example.

For this example, numeric characters will be padded with zeroes, and the Default Field Width is changed to 10. The extension can be left blank if you choose to use the default provided by Argos.

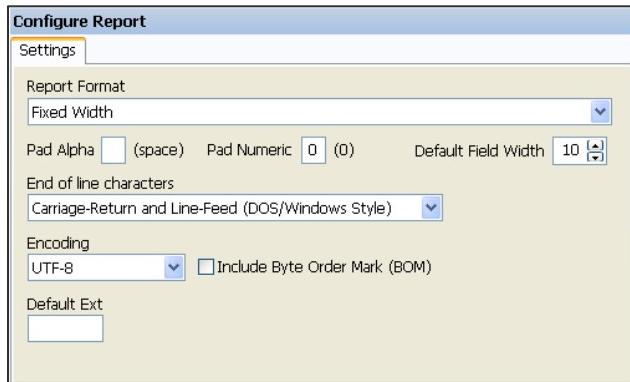


Figure 160 – Entering pad character for numeric fields and default field width

The Report Formats

Although there are 3 different output report formats, the report design process is virtually identical for all report types.

Encoding

For the output file, if UTF-8 encoding is selected, you have the option of including the Byte Order Mark (Unicode character) at the start of the text stream.

Default file extensions

.txt for fixed width reports

.csv for delimited reports

.xml for XML formatted reports

When saving a report after execution, Argos will use the default extensions shown above. If the default extension is entered here, when saving the report only this extension will be shown in the list of file types when saving the report.

Add datasets

The next step is to add the datasets that will be used in the report. The datasets that were created in the DataBlock's Report Query are displayed as shown in the figure below. The ArgosData dataset is the main dataset that obtains payments made to vendors. The Counter dataset contains a count of the number of vendors that payments were made to. This value is used in several record types in the report (T and C records), and keeping the value as a variable allows you to place the variable into a number of sections.

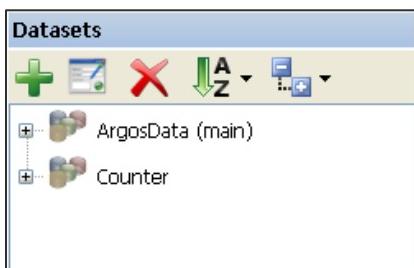


Figure 161 – The datasets area with Datasets in Report Query

The T and A records contain information about the company submitting the report to the IRS. This information is contained in the "Company" table in the Sample Database, but this table is not included in the Report Query. Therefore this table must be added as a Dataset.

To add the Dataset, click the green plus sign shown in the figure above which displays the dialog box shown below.

A right click anywhere within the Datasets area displays menu items to Add, Edit, or Delete datasets.

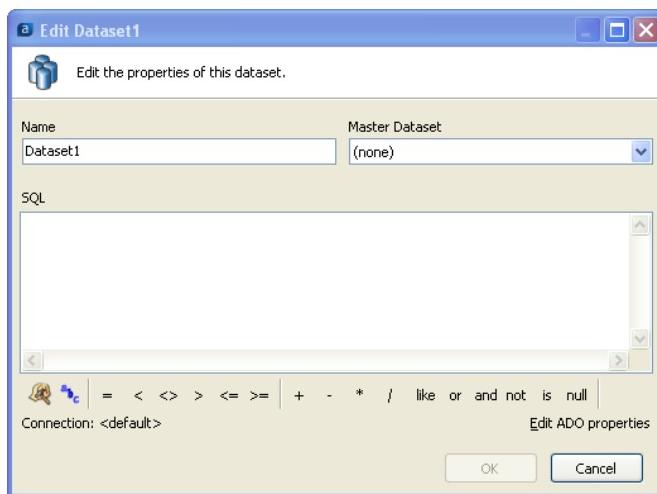


Figure 162 – Creating a Dataset

Enter the name "Company" for the Dataset then click the hardhat/hammer icon to display the Build Query dialog box shown below. Click the "Add Table" button, enter "Company" for the name of the table, then click "OK".

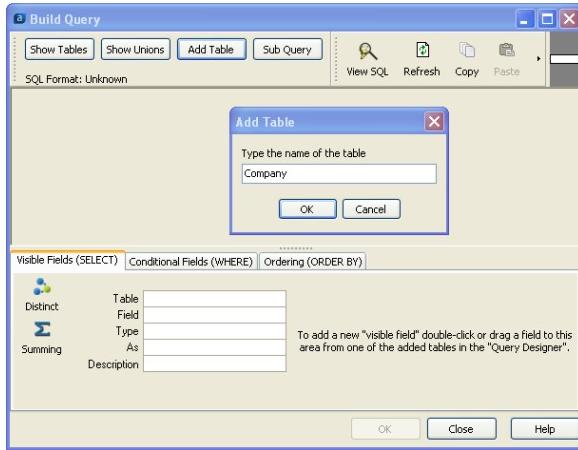


Figure 163 – Entering the Table name

The “Company” table will be displayed. Double-click on Transmitter_TIN and Transmitter_Name as they will be used in the T and A records. Click “OK” to continue.

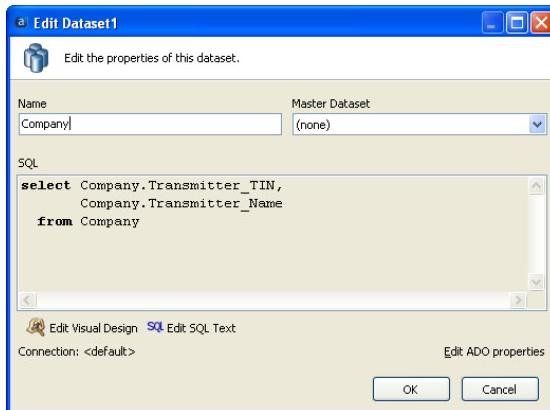


Figure 164 – Entering the Dataset name

This Dataset is not a child of another Dataset, therefore leave the “Master Dataset” field as (none). After clicking “OK”, you will be returned to the Main Interface with the newly added Company Dataset shown.

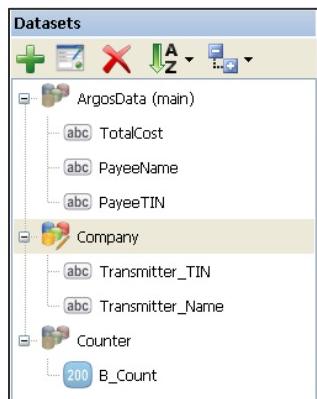


Figure 165 – The Datasets area showing all Datasets

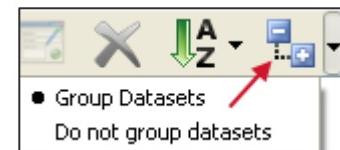
Added datasets vs. datasets in Report Query



Datasets added during creation of the Extract Report are shown with a colored icon. Datasets contained in the Report Query are not colored. Datasets created in the Extract Report are editable, whereas datasets created in the Report Query are not editable within the Extract Report Editor.

Dataset Grouping

Click the Group Datasets option shown below to choose if dataset groupings are to be displayed.



When Dataset grouping is selected, child datasets are indented relative to its master dataset. This is shown in the picture below.



Note the field names under each Dataset. They will each be placed into various sections within the Extract Report. Now that the required Datasets exist, the sections and fields can be added to the report.

Add the section for the T Record Type (Title Section)

The first section in the report creates the T Record Type and reads the single record from the Company Dataset. This Dataset contains general information about the company submitting the 1099 file.

Add the section

To add the section, click the small down-arrow to the right of the green plus sign, then click on "Add Title Section" as shown in the figure below.

A right-click anywhere within the Report Structure area displays the following menu items for adding, deleting, or moving sections.

Add	►
Delete	Del
Move Up	Ctrl+Up
Move Down	Ctrl+Down

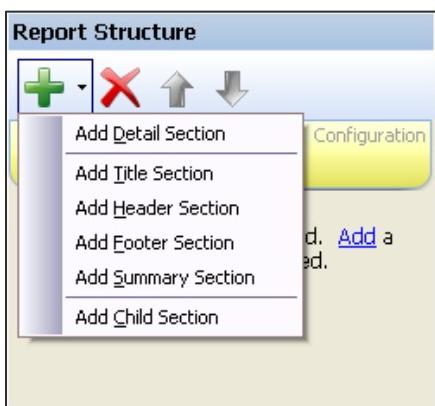


Figure 166 – Adding a Title Section

Enter a Name for the section and a Description, if desired. Since this section is to be included in the report, do not uncheck the "Print this Section" box. The name entered is displayed in the Report Structure area for the section as shown below.

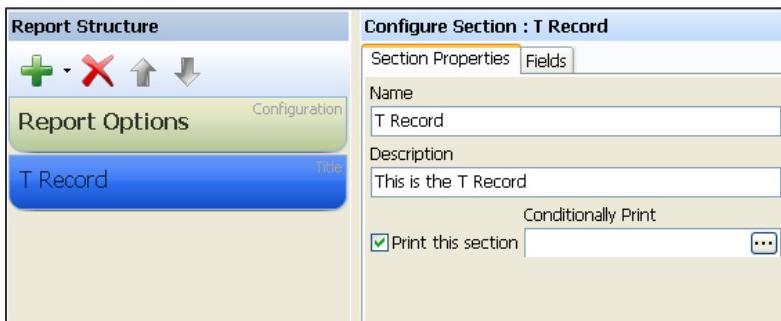
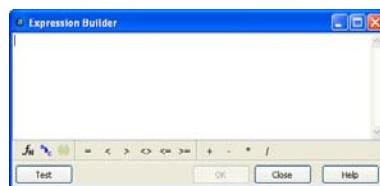


Figure 167 – Entering Name and Description of Section

Conditionally Print

If you choose to print the section, you can also specify if the section is to be conditionally printed based on the results of an expression. Click the ellipsis button to launch the Expression Builder which is used to create an expression.



When Conditional Printing is selected for a section, the printer icon shown below with the blue question mark is displayed.



Add fields to the section

The next step is to add fields to this section. The fields to be added from the datasets are Transmitter_TIN and Transmitter_Name (from the Company dataset), and the number of payees (from the Counter dataset). Constant fields will be used for record type (T) and payment year (2009). Finally, an expression field (COUNT) will be used to create the Record Sequence Number.

Click on the Fields tab shown in the figure above to activate the area where fields are displayed and configured.



Figure 168 –Adding fields to the section

Fields will now be added in the following order: Record Type, Payment Year, Record Sequence Number, Transmitter_TIN, _Transmitter_Name, number of payee records.

Record Type - Click the small down-arrow to the right of the green plus sign to display the list of field types and select "Add Constant Field". An area will be displayed beneath where you configure the field. For this field, enter "T" as the value. Also enter "1" as the field width. Change the name of the field from "Constant" to "T".

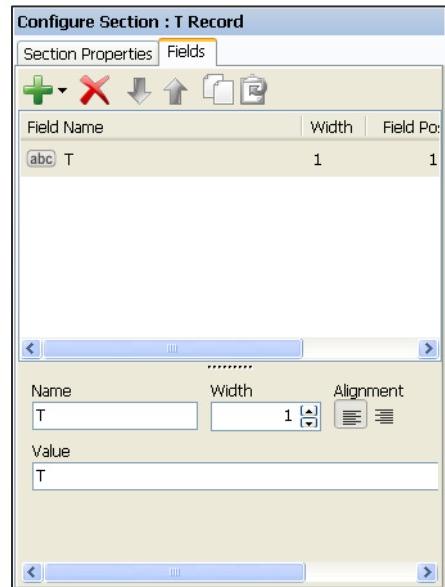


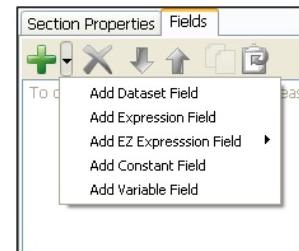
Figure 169 –Adding the Record Type and renaming the field

Payment Year – repeat the same procedure to add a constant field with a value of 2009 and width of 4.

Adding Dataset fields

Dataset fields can be added 3 ways:

- By double-clicking on the field displayed in the Datasets area.
- By dragging a field displayed in the Datasets area onto the Configure Section area. Multiple fields can be selected via CTRL-click then dragged into the Configure Section area.
- By clicking the small down-arrow next to the green plus sign in the Configure Section area. This allows you to add all field types and not only Dataset fields. This is shown in the figure below.



A right-click anywhere within the Configure Section area will also display the above items.

Record Sequence Number – Add a COUNT expression as shown below which will increment for each record.

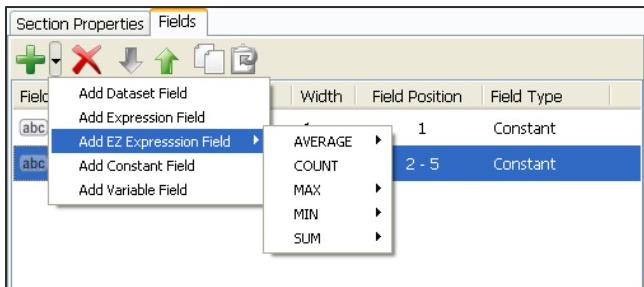


Figure 170 –Adding the COUNT expression

The COUNT field will then appear as shown in the figure below. Right align the field by clicking the alignment icon. For the expression value, add “+1” after COUNT to start the counter at 1.

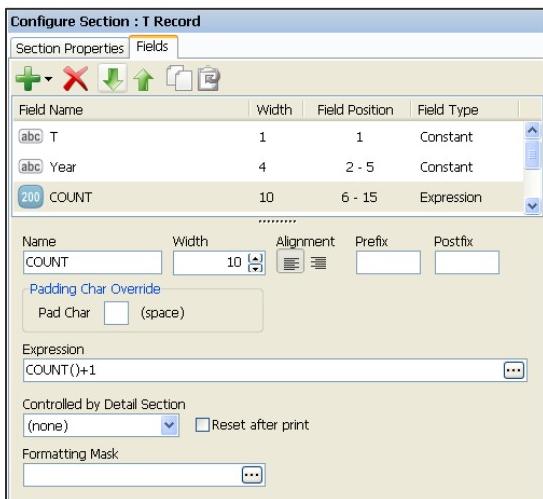


Figure 171 –The section with 3 fields added

Note in the figure above that 3 fields have been added along with width, field position, and field type.

Transmitter_TIN and Transmitter_Name – add these dataset fields by double-clicking on them within the Datasets area. Increase the width of the Transmitter_Name field to 20. Set the width of Transmitter_TIN to 9.

Number of payees – add this dataset field by double-clicking on the B_Count field in the Counter dataset. This field contains the number of payees (also the number of B records).

The added fields are shown as follows. Take note of the width, field position, and field type fields to verify it they are correct.

Dragging Dataset fields

If you drag a Dataset field from the Datasets area to the Configure Section area, you will need to click on the field after dragging for the configurable properties to appear. This step is not required when using the other methods for adding fields to a section.

Configure Section : T Record

Fields			
Field Name	Width	Field Position	Field Type
abc T	1	1	Constant
abc Year	4	2 - 5	Constant
200 COUNT	10	6 - 15	Expression
abc Transmitter_TIN	9	16 - 24	Dataset
abc Transmitter_Name	20	25 - 44	Dataset
200 B_Count	10	45 - 54	Dataset

Name Width Alignment Prefix Postfix
Transmitter_TIN 9 [] [] []

Padding Char Override
Pad Char [] (space)

Formatting Mask []

Dataset Field Name
Company.Transmitter_TIN []

Figure 172 –The section with all fields added

Save your work and test the report

You can save your work at any time by clicking the save icon at the top left of the Report Editor. You can view the report by clicking the green circular icon containing an arrow. The icon is shown in the sidebar to the right.

A preview of the report at this stage appears as follows:

T20090000000001123456789ACompany, Inc. 0000000012

Record Type = T

Year = 2009

Record Sequence Number = 1

Transmitter_TIN = 123456789

Transmitter_Name = ACompany,Inc.

Number of payees = 12

Extract Report Editor Icons

Icon	Description
	Close the Editor.
	Save your work.
	Undo the last operation.
	Redo the last undone operation. Click the small arrow to view undo history.
	Test the report.
	Open In-Product Help

Add the section for the A Record Type (Detail Section)

This section identifies the institution making payments to vendors. For this example, the transmitter is the same institution as the institution making the payments. Therefore the company name and TIN for this record contains the same values used in the T record.

Add the section

Add a Detail Section beneath the T Record and name it "A Record". Select "Company" as the Associated Dataset and leave the Parent Detail Section as (none) as shown in the figure below.

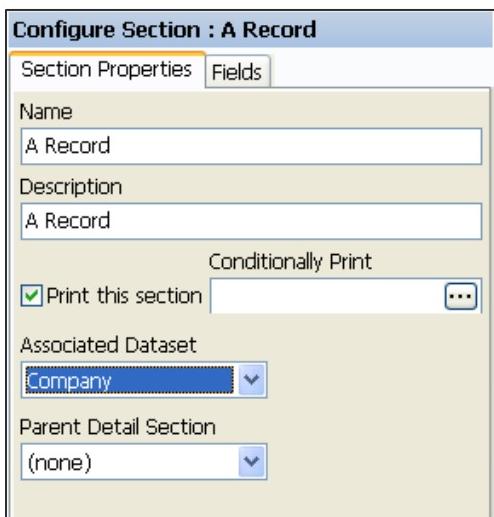


Figure 173 –Adding a Detail Section for the A Record Type

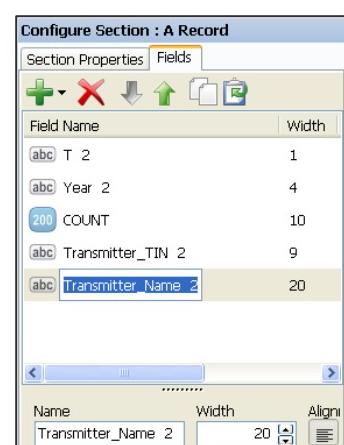
Add the fields

Since the first 5 fields are the same as used in the T Record, you can copy them from the T Record and paste them into this section. To do this, click on the T Record (in the Report Structure Area), click the Fields tab, highlight the first 5 fields using CTRL/click, then click the copy icon. Then click the A Record (in the Report Structure Area), click the Fields tab, then click the paste icon. All 5 fields will be pasted, with an integer number appended to the Field Name as shown below. You can then rename the fields as desired. See the sidebar which contains the various ways to rename fields.

Renaming fields

There are 3 ways to rename a field:

- Click on the field then change the name in the "Name" field at the bottom of the area. The figure below shows the Name field.
- Perform a slow double-click on the field. The field will then be surrounded by a box. You can then change any characters within the box. The figure below shows the selected field name surrounded by the box after a slow double-click.
- Select the field then click the F2 key. The field can then be edited.



Configure Section : A Record	
Section Properties	Fields
Field Name	Width
[abc] T 2	1
[abc] Year 2	4
[200] COUNT 2	10
[abc] Transmitter_TIN 2	9
[abc] Transmitter_Name 2	20

Figure 174 – copy/paste fields to this section

After the paste operation, change the field name from T to A, and change the value to A.

Then add the Return Type as a Constant field, give it a value of A, and set the width to 1.

The fields within the A record should now appear as shown below:

Configure Section : A Record			
Section Properties	Fields		
Field Name	Width	Field Position	Field Type
[abc] A	1	1	Constant
[abc] Year	4	2 - 5	Constant
[200] COUNT	10	6 - 15	Expression
[abc] Transmitter_TIN	9	16 - 24	Dataset
[abc] Transmitter_Name	20	25 - 44	Dataset
[abc] Return Type	1	45	Constant
.....			
Name	Width	Alignment	
Return Type	1	[A]	
Value	A		

Figure 175 – The A Record with all fields added

Add the section for the B Record Type (Detail Section)

This section contains the amount paid to each payee and loops through the Vendor table in the ArgosData dataset to obtain the Payee TIN, Payee Name, and total payments to each payee.

Add the section and fields

Add a Detail Section, name it "B Record" and select ArgosData as the Associated Dataset. Then add the Record Type = B, Payment Year, Record Sequence Number in the same fashion that was done for the T and A records. Then add the Payee TIN, PayeeName, and TotalCost fields from the ArgosData dataset. Right align the COUNT and TotalCost fields, and left align the PayeeTIN and PayeeName fields.

The fields contained within the B Record should appear as follows:

Field Name	Width	Field Position	Field Type
abc B	1	1	Constant
abc Year	4	2 - 5	Constant
200 COUNT	10	6 - 15	Expression
abc PayeeTIN	9	16 - 24	Dataset
abc PayeeName	20	25 - 44	Dataset
7.5 TotalCost	12	45 - 56	Dataset

Icons used to represent data types

Icon	Data type
abc	string
7.5	float
200	integer
31	date

Figure 176 – The B Record with all fields added

Save your work and test the report

At this point the report will appear as follows:

T20090000000001123456789ACompany, Inc.	0000000012
A20090000000002123456789ACompany, Inc.	A
B20090000000003999999999Art Danielson	000000096000
B20090000000004987654321Harold Brown	000000045000
B20090000000005888888888Helen Jones	000000036000
B2009000000000611111111Henry Garcia	000000030000
B20090000000007123456789James Green	000000025000
B2009000000000822222222James Tong	000000050000
B2009000000000933333333Jane Smith	000000010000
B2009000000001066666666Joe Orozsco	000000008750
B2009000000001177777777Lousie Smart	000000012000
B2009000000001244444444Mary Jones	000000010000
B2009000000001311114444Rene Gould	000000044000
B2009000000001455555555Stan Smith	000000007000

Figure 177 – Testing the report

Add the Sections for the C Record Type (Header and Footer Sections)

The C record type contains the number of payees (B records) as well as the sum of all payments made by the payer. Therefore, Header and Footer sections will be created which will count the number of B records and will sum the payment amounts in the B records.

Note: although the B_Count variable also contains the number of B records and could be used here, the value will be computed again to demonstrate how Header and Footer Sections are used to count and sum data contained in details records.

Add a Header Section

Add a Header Section, name it "B Header", set Detail Section to "B Record", and uncheck the "Print this section" box.

The screenshot shows the 'Report Structure' window on the left and the 'Configure Section : Header' dialog box on the right. In the Report Structure, there are sections: T Record (Title), A Record (Detail), Header (Header), and B Record (Detail). The 'Header' section has a red X icon next to its printer icon. In the Configure Section dialog, the 'Name' field is set to 'Header'. Under 'Conditionally Print', the 'Print this section' checkbox is unchecked. The 'Detail Section' dropdown is set to 'B Record'. The 'Group by' field has an ellipsis button.

The printer with a red x indicates that the section is not to be printed



Figure 178 –Adding a Header Section

No fields will be placed in the Header Section, which is why the section is not to be printed. Note the image of a printer with the red x, which indicates that the section is not to be printed. Header and Footer Sections are used to group information in the Detail Section surrounded by the Header and Footer Sections in the same fashion as is used for the Banded Report Header and Footer Bands. You can group the data in the Detail Section by selecting one of the available functions that are displayed when clicking the ellipsis in the "Group by" field. The Expression Builder will be launched where you can create the expression used as the criteria for grouping.

This example does not require the B Records to be grouped since the order of data in this case is immaterial.

Add a Footer Section

A Footer Section will be added to count the number of detail (B) records and to sum the payment amounts in the B Records. COUNT and SUM expressions will be added to the Footer. The footer section becomes the C Record Type and will be printed.

Add the Footer Section and select "Header" as the Header Section that this Footer is associated with as shown in the figure below. Name the Section "C Record".

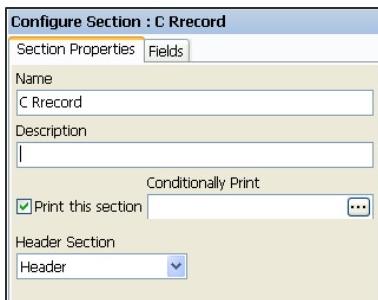


Figure 179 – The Footer Section for the C Record Type

Add the fields to the C Record

Using methods shown above, add the Record Type, Payment Year, Record Sequence Number fields by copying them from other sections and pasting them into the C Record.

Add a COUNT expression, right align, and name it TotalBRecords. Select “B Record” for the “Controlled by Detail Section” field since the COUNT expression must count the number of records in the B (detail) section.

Add a SUM expression to sum the TotalCost fields in the B Records. Select “B Record” for the “Controlled by Detail Section” field such that the SUM expression will sum only values from the B section. The figure below shows the selections required when summing the TotalCost field using “Add EZ Expression Field”.

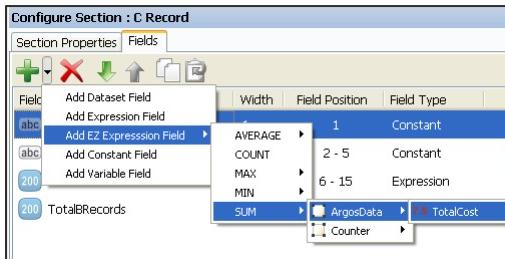


Figure 180 – Adding the SUM function

The figure below shows all of the fields after being added to the C Record.

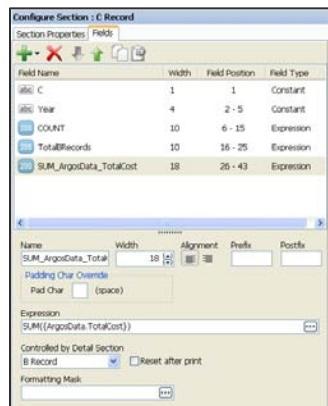
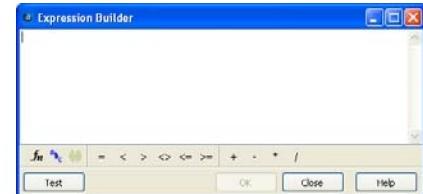


Figure 181 – After all fields added to the C Record

Adding Expressions

Expressions can be added using the Add EZ Expression Field option which allows you to quickly add the most commonly used Argos functions.

You can also add an expression by selecting “Add Expression Field”, and the entire set of Argos functions is available to you via the Expression Builder shown below.



When using this method to add an expression, after clicking “Add Expression”, click the ellipsis button at the right of the Expression field to launch the Expression Builder



Add the Section for the F Record Type (Summary Section)

The F Record Type is the end of transmission record and must appear as the last record in the report. Therefore a Summary Section is used for this Record Type.

Add a Summary Section

Add the Summary Section and name it "F Record". The record will be placed as the last section. Since this record contains fields to be included in the report, keep the "Print this section" box checked. At this point, all sections have been added and appear as shown below.



Figure 182 –The entire report structure

Add the fields

The first 3 fields in this Section (Record Type, Payment Year, and Record Sequence Number) have already been added to prior sections and can be copied into this section. After copying, change the value of the Record Type to "F".

After the Record Sequence Number field, add a constant field containing the number of A records, which is 1 for this example. The next field is 21 characters and is left blank. Therefore add a constant field with blanks for the value. Following this field is a 19 character field to be left blank, therefore add the appropriate constant field. Finally, the last field contains the number of B records, so move the B_Count field from the Datasets area into the list of fields. When completed, the fields should appear as shown in the figure below.

Note the field names that were entered to provide meaning to each.

Configure Section : F Record			
Section Properties		Fields	
Field Name	Width	Field Position	Field Type
[abc] F	1	1	Constant
[abc] Year	4	2 - 5	Constant
[200] COUNT	10	6 - 15	Expression
[abc] Num A Records	10	16 - 25	Constant
[abc] 21 blanks	21	26 - 46	Constant
[abc] 19 blanks	19	47 - 65	Constant
[200] B_Count	10	66 - 75	Dataset

Figure 183 –The F Record with all fields added

Save your work and test the report

The report is now completed, therefore save it and click the “Test this Report” icon to preview the report. The completed report appears as follows:

F20090000000001123456789	Company, Inc.	0000000012
A20090000000002123456789	Company, Inc.	&
B20090000000003999999999	Art Danielson	000000096000
B20090000000004987654321	Harold Brown	000000045000
B20090000000005888888888	Helen Jones	000000036000
B20090000000006111111111	Henry Garcia	000000030000
B20090000000007123456789	James Green	000000025000
B20090000000008222222222	James Tong	000000050000
B20090000000009333333333	Jane Smith	000000010000
B200900000000010666666666	Joe Orozsco	000000008750
B200900000000011777777777	Lousie Smart	000000012000
B20090000000001244444444	Mary Jones	000000010000
B20090000000001311114444	Rene Gould	000000044000
B200900000000014555555555	Stan Smith	000000007000
C20090000000001500000000120000373750		
F20090000000016	1	0000000012

Figure 184 –Testing the completed report design

Execute the Report

Extract Reports are executed in the same fashion as other report types. Select the report from the Argos Explorer window, then click the Execute button to execute the report.

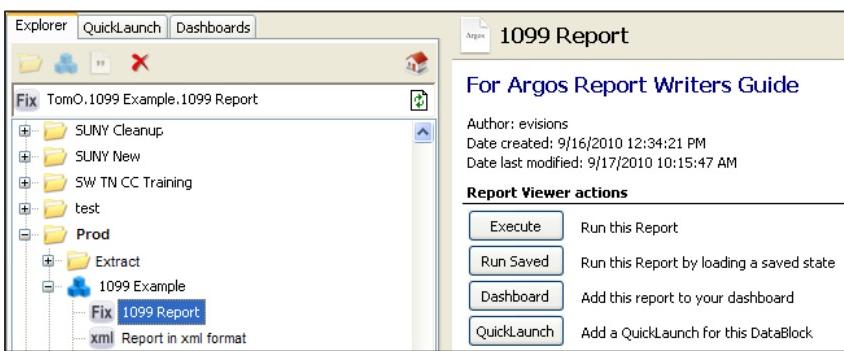


Figure 185 – Executing the report

After execution of the report you have the option of saving the report to a file, emailing the report, or have an application automatically launched to display the report. The application launched depends on the file extension chosen when the report was created. For example, if you chose a file extension of .xls, then MS-Excel will be launched.

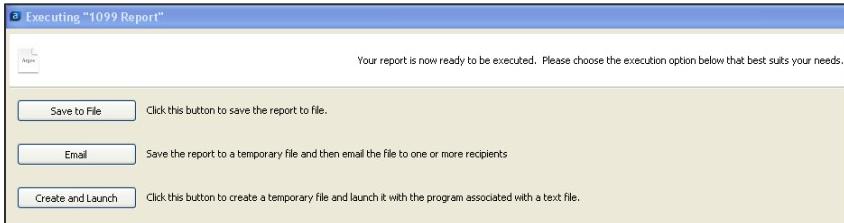
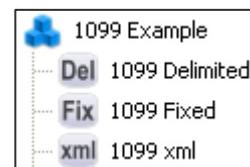


Figure 186 – Saving the report results

The icons shown below are used to represent the Report Type.



Del represents Delimited report format

Fix represents Fixed Width report format

xml represents XML report format

The Report in Delimited Report Format

The above report in delimited format would appear as follows (using comma as the delimiter).

```
T,2009,1,123456789,ACompany,Inc.,12
A,2009,2,123456789,ACompany,Inc.,A
B,2009,3,999999999,Art Danielson,96000
B,2009,4,987654321,Harold Brown,45000
B,2009,5,888888888,Helen Jones,36000
B,2009,6,111111111,Henry Garcia,30000
B,2009,7,123456789,James Green,25000
B,2009,8,222222222,James Tong,50000
B,2009,9,333333333,Jane Smith,10000
B,2009,10,666666666,Joe Orozco,8750
B,2009,11,777777777,Lousie Smart,12000
B,2009,12,444444444,Mary Jones,10000
B,2009,13,111114444,Rene Gould,44000
B,2009,14,555555555,Stan Smith,7000
C,2009,15,12,373750
F,2009,16,1,,12
```

Figure 189 –Report in delimited format

The Report in XML Report Format

In XML format, the report appears as shown below if defaults were used for the following fields:

- Write XML Declaration
- Root Element Name
 - By default, the Root Element Name is “XML” as shown below
- Tag Indentation
- Compact tag notation
- XML Element Name for a section
 - By default, the section name is used for the XML Element Name.
- XML Element Name for a field
 - By default, the field name is used for the XML Element Name.
- Is Attribute (applies to each field)

The In-Product Help describes the location and use of these fields in detail.

```
<XML>
<T_Record T="" Year="2009" COUNT="1" Transmitter_TIN="123456789" Transmitter_Name="ACompany, Inc." B_Count="12"/>
<A_Record A="" Year="2009" COUNT="2" Transmitter_TIN="123456789" Transmitter_Name="ACompany, Inc." Return_Type="A"/>
<B_Record B="" Year="2009" COUNT="3" PayeeID="999999999" PayeeName="Art Danielson" TotalCost="96000"/>
<B_Record B="" Year="2009" COUNT="4" PayeeID="987654321" PayeeName="Harold Brown" TotalCost="45000"/>
<B_Record B="" Year="2009" COUNT="5" PayeeID="888888888" PayeeName="Helen Jones" TotalCost="36000"/>
<B_Record B="" Year="2009" COUNT="6" PayeeID="111111111" PayeeName="Henry Garcia" TotalCost="30000"/>
<B_Record B="" Year="2009" COUNT="7" PayeeID="123456789" PayeeName="James Green" TotalCost="25000"/>
<B_Record B="" Year="2009" COUNT="8" PayeeID="222222222" PayeeName="James Tong" TotalCost="50000"/>
<B_Record B="" Year="2009" COUNT="9" PayeeID="333333333" PayeeName="Jane Smith" TotalCost="10000"/>
<B_Record B="" Year="2009" COUNT="10" PayeeID="666666666" PayeeName="Joe Orozco" TotalCost="8750"/>
<B_Record B="" Year="2009" COUNT="11" PayeeID="777777777" PayeeName="Lousie Smart" TotalCost="12000"/>
<B_Record B="" Year="2009" COUNT="12" PayeeID="444444444" PayeeName="Mary Jones" TotalCost="10000"/>
<B_Record B="" Year="2009" COUNT="13" PayeeID="111114444" PayeeName="Rene Gould" TotalCost="44000"/>
<B_Record B="" Year="2009" COUNT="14" PayeeID="555555555" PayeeName="Stan Smith" TotalCost="7000"/>
<C_Record C="" Year="2009" COUNT="15" TotalRecords="12" SUM_AccosData>TotalCost="373750"/>
<F_Record F="" Year="2009" COUNT="16" Num_A_Records="1" 21_blanks="" 19_blanks="" B_Count="12"/>
</XML>
```

Figure 190 – Report in XML format using defaults

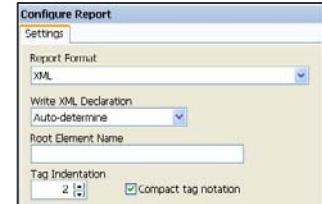


Figure 187 –XML Declaration, Root Element Name, Tag indent, tag notation

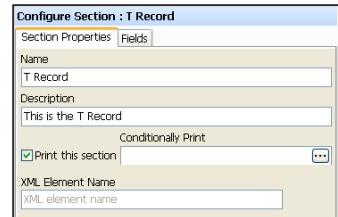


Figure 188 –XML Element Name for a Section

If you override the defaults, the appearance of the report will differ. For example, if the "Is Attribute" option is unchecked for a given field, then the XML syntax for the field is:

```
<Field Name>field value</Field Name>
```

In this example, if the "Is Attribute" field in the F Record is unchecked for the B_Count field, the XML created is shown below and differs from the figure above.

```
<F_Record F="F" Year="2009" COUNT="16" Num_A_Records="1" 21_blanks="" 19_blanks="">
  <B_Count>12</B_Count>
```

Additionally, if you enter values for XML Element Name for sections or fields, the defaults mentioned above will be replaced by the values that you enter.

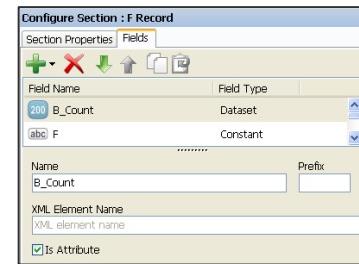


Figure 191 –XML Element Name and "Is Attribute" for the B_Count field

Argos Resources

The Support Site

The support site can be accessed through the web using the following URL:

<http://www.evisions.com/Support/Overview.aspx>

Navigating to this site through the link or through Evisions' main page will require login credentials before allowing material to be downloaded.

The support site can also be accessed through Argos by clicking the Help button on the Argos menu bar shown below.

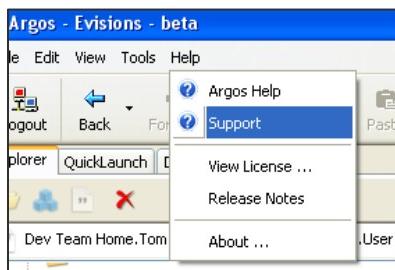


Figure 192 – Link to support site from Argos

Accessing the support site from Argos requires login credentials for the first use of the site. Subsequent access to the site will bypass the security page, allowing the user to access materials without credentials. The figure on the right shows the screen that appears when accessing the support site for the first time.

Enter your User Name and Password, which are required only the first time you visit the support site. If you do not have a user name or password, contact your systems administrator or **you may create your own account** by filling in the items under "Register New Account". If you register yourself, you will be granted a default set of privileges. Therefore if you require additional privileges see your systems administrator.

After accessing the site, navigate around the site noting the available tools for Argos users.

Once in the support site, there are several things that Argos users may find useful:

- Argos Documentation: All Argos documentation (technical and functional) can be downloaded here. This includes user guides, installation guides, and white papers.
- Don't forget to use the In-Product Help within Argos.
- The Training Calendar: A calendar of all online training sessions. Training is completely free and can be repeated as needed.
- Multimedia Content: In addition to the documentation, Evisions records all online training. This gives users the opportunity to download the flash video files and watch the training at their leisure.

Evisions Forum

Comprised of Argos clients for sharing of information about Evisions' products

HelpDesk

Technical issues can be logged here.

Training Calendar

A calendar of all online training.

Argos Documentation

All Argos Documentation (technical & functional) can be downloaded here.

Multimedia Content

Gives users the opportunity to download the flash video files.

COOP

A DataBlock repository for all Argos' clients.

The form consists of two sections: "Account Login" and "Register New Account".
Account Login:
User Name:
Password:
Login
Register New Account:
User Name:
Password:
Confirm Password:
Email Address:
Register
Remember Login
[Forgot Password ?](#)

- Evisions Forums: collaborate with peers and share ideas about the Evisions Suite of Products based upon specific topics. The forums are also used to provide Evisions product/update information to clients. Forums can be found on the Evisions web site under the CO-OP User Community page.
- The HelpDesk: Technical issues can be logged here. The link to the HelpDesk is listed below under "Important Links".

The CO-OP User Community

Like the support site, the COOP can be accessed in two ways:

1. Through the Evisions main page under the Support tab
2. Using the COOP button in the Argos interface

The COOP is a DataBlock repository for all Argos clients. Evisions periodically uploads DataBlocks to the COOP for use in its client base. In addition, clients are encouraged to use the COOP as a mechanism to share the DataBlocks they have put together. Joining the Evisions CO-OP User Community also allows users to participate in forums and obtain Evisions Documentation and Software.

Click the "Visit the Argos COOP Site" icon on the toolbar. Enter your User Name and Password shown on the Account Login screen shown on the previous page. This is only required the first time you visit the COOP site. If you do not have a user name or password, contact your systems administrator or **you may create your own account** by filling in the items under "Register New Account". If you register yourself, you will be granted a default set of privileges. Therefore if you require additional privileges see your systems administrator. The default privilege will allow you to download files from the CO-OP.

This will bring you to the CO-OP User Community page on the Evisions web site where you can take advantage of the features described above.

CO-OP

"Visit the COOP Site" icon on the Argos toolbar



Important Links

Evisions Help Desk: <http://helpdesk.evisions.com>

Evisions Training Calendar: <http://www.evisions.com/calendar>

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